NORTHWEST TECHNOCRAT
V. 10 (1955) — V. 21 (1957)

THE UNIVERSITY OF ALBERTA ARCHIVES
Accession No. 72-22
File No. 13
Box No. 1

THE NORTHWEST Technocrat

OCT. 55

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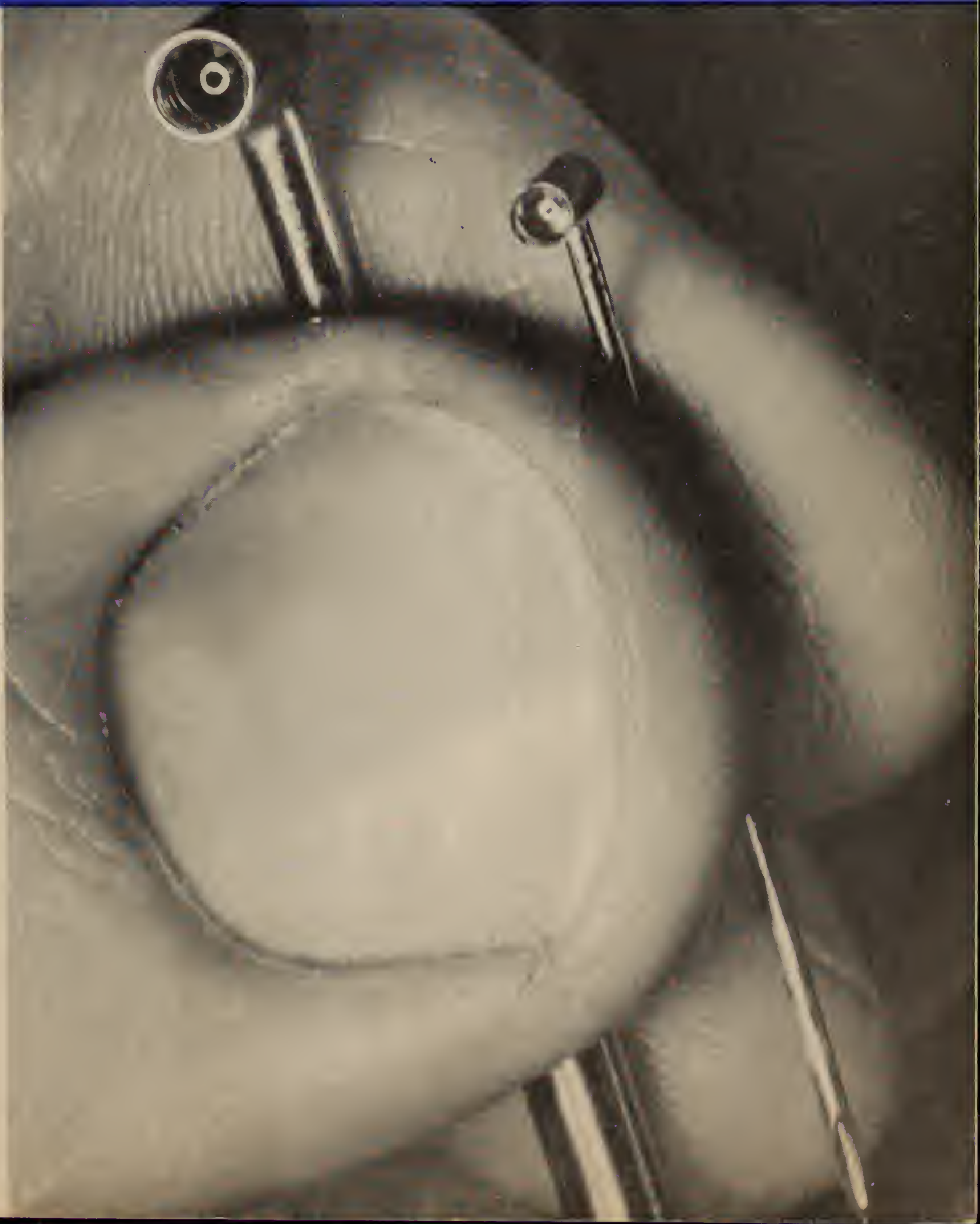
No. 181 (Vol. XIX)

25¢

Sec. 3, R. D. 12247
TECHNOCRACY INC.
Seattle, Washington



NO NEWS --- Isn't Good News

FOR YEARS, the Price System Press has been exploiting the public fears of war to sell its trashy sensationalism and propaganda. Naturally, people want a little advance notice if there is a possibility of being disintegrated by an A- or H-Bomb. The Press has 'made hay' in selling the fear of war at every possible opportunity.

Somewhat dramatically, the war theme of the Press has been forced to shift to conform with the 'peace' theme of the moment. The Iron Curtain countries, from which we were told would come certain death in a hail of A- and H-Bombs, suddenly have become excellent prospective customers for North American agricultural stockpiles, which are becoming more embarrassing to us by the hour. And who knows—we may even be able to sell these 'enemies' of ours textiles, automobiles, refrigerators and TV sets. We have embarrassing inventories of these products, too.

But for the Press, whose job it has been to keep the minds of North Americans off domestic problems, it's getting harder by the day to find something to talk about that will not stir social consciousness on this Continent.

Major Problems

Problems of major domestic importance, such as the impact of technology on employment and production, business failures and bankruptcies, depletion of vital resources, and of millions of North American families hopelessly in debt—these problems are forcing their way into the Press. The diversionary tactic of war, and the hammering of the Press on the prospect of war, are outliving their usefulness as means to avoid reckoning with a mounting abundance flowing from North America's technological capacity. It is amazing how quickly domestic problems have reared their heads, and are bringing great pressure to bear on the economy, just with a diminution of war talk. This, despite the fact that there has been no reduction in the billions being spent for war preparation.

It is not strange or unexpected that Technocracy is cropping up frequently these days in the Press, though the references to Technocracy often are inaccurate and distorted, to say the least.

After all, Technocracy was first by many years to make available to the public a scientific understanding of and answer to the problem of abundance on this Continent. As a matter of course, Technocracy will be the big news of tomorrow—the first good news on a new social operation technique ever presented to the people of North America and the world.

—Editorial Board, NWT

COVER PICTURE

Pressure Probe

A tiny pressure probe, built on a watchmaker's Levin Lathe out of .072 and .018 tubing, has been devised by AiResearch to measure air flow through turbo-machinery.

Inserted into the small, high-speed machinery, the probe, a miniature reproduction of larger external probes, measures total pressures within a cone of 100 degrees and at velocities reaching the speed of sound.

A delicate forming tool on the Levin Lathe cuts the proper angles in the .012-inch wall of the tube to form a venturi section. This makes possible an accurate reading of the air flow from any angle within the 100-degree cone. The inside surfaces are then polished on the lathe.

A .018 tube from a hypodermic needle pierces the wall of the larger tube and curves into the airstream to carry the total pressure to a monometer, where it is recorded to be read by test laboratory technicians.

The probe had to be small enough to prevent disruption of the rapid flow of air through air ducts. The larger probes manufactured and sold (one shown here) would not only turbulate the air, but would even create shock waves in air flowing at the speed of sound.

—Photo Courtesy of AiResearch

OCTOBER 1955
THE NORTHWEST
Technocrat

The Art and Science of Prediction

There are some fairly reliable forms of prediction which have been recognized and accepted by man, in some degree, for many centuries. Among these are the statistical and analogical approaches, also the projection of trends derived from these. The statistical method of prediction is based upon what is already known to be so. The analogical approach is somewhat more subtle than the statistical approach and is subject to more error, but it does have a degree of usefulness.

MEN OF CURIOSITY have always been fascinated by the unknown and have been intrigued with methods of penetrating into the mysteries in time and space which lie beyond the reach of their senses. Accordingly, various approaches have been developed for predicting that which is to come, or that which has been, or that which is occurring in other places. Educated men of today scoff at the ways in which ancient man sought to predict the unknown; for, most of them were based on spook-infested superstitions or were weird in their complexities and vagaries. The modern educated man may be no less superstitious in certain fields than the primitive savage, but his superstitions are more subtle and erudite.

Folklore is full of reference to the uncanny 'instincts' of animals with respect to the prediction of coming events. Even now, we are occasionally told that dogs or other animals sense a coming change of weather or the approach of some significant event, such as a death in the family. Some animals are accredited with the ability to anticipate a severe or mild winter and prepare for it accordingly. 'Watch nature and you will be able to foretell what is going to happen,' say the modern Old Wives.

Likewise, there are humans who are supposed to have uncanny 'powers.' They are supposed to be able to anticipate future events or know what is going on at distant places through the medium of intuitions or 'hunches.' Their hunches may cover such events as the winning horse in the sixth race at Jamaica come Tuesday, or the victory of the Democratic candidate in the coming election, or some unspecified misfortune that will beset Aunt Martha on her coming trip to Rochester. Such persons also 'know' who is calling on the telephone as soon as they hear it ring; or what catastrophe has befallen a person who happens to be late in arriving.

None of the references to the uncanny 'powers' of animals or man were ever checked out for accuracy prior to the advent of science; and few of them are carefully checked even now.

Intelligent, trained human beings, with a plethora of past experience and current data at hand, have difficulty in making accurate predictions about even the most routine events; for example, tomorrow afternoon's weather or the arrival time of the 8:45 train on the Long Island Railroad. So, what basis is there for supposing that caterpillars, dogs, drunkards, or 'natives' have such ability? The answer is, of course, 'they don't.' We just like to believe they do. Animals, including man, have a limited ability to sense current data and to accumulate and coordinate experience as they go along; and, thus, they may be able to anticipate certain steps in a sequence of events that is already in progress. Highly intelligent human beings are more capable than anything else; caterpillars are among the least capable.

Experience enables one to make certain associations of data; for example, black clouds and rain, lilacs and springtime, kids and mischief.

The Northwest Technocrat is published quarterly by Section 3, R D 12247, Technocracy Inc., 2208 Eighth Avenue, Seattle 1, Washington. Entered as second class matter July 11, 1949, at the Post Office of Seattle, Washington, under the act of March 3, 1879. Subscription rate is $1 00 for four issues. Single copy 25 cents. Continental Headquarters of Technocracy Inc are located at Rushland, Pennsylvania Entire contents copyrighted 1955 by Section 3, R. D. 12247, Technocracy Inc

Given one or the other of these associated things or events, one can predict the other with a fair degree of accuracy. Thus, a change in air pressure and humidity may affect a person's nervous system in such a way that he 'feels' a storm is brewing; and often (but not always) he is correct. He has learned that the two tend to go together. Weather experts can measure these phenomena (and others) much more precisely and make more accurate predictions about storms. Yet, there appears to be something more fascinating about Aunt Susie's corns aching than, for instance, a barometric reading of 29.6 and a hygrometer calculation of 89 per cent humidity.

A dog, with more sensitive hearing than man, may be able to 'predict' a coming electrical storm by displaying a cringing restlessness before man is aware that any storm is near. But you can get even a better prediction by listening to the static on the radio. In either event, the storm may come your way or it may pass by at some distance. That detail is not so readily predictable.

Meat for the Gullible

Most people are gullible, at least to some degree, for the portents of the uncanny; and the smart opportunists reap a handsome take from their gullibility. We fall for such things as predictions based on the chance arrangements of tea leaves in a cup, the happenstance sequence of cards in a deck, the pattern of lines on the palm of our hands, dreams that occur in our sleep, or the intuitions of very old people. We shall not mention, other than in passing, the reliance on the magic powers of various words, numbers, trinkets, or parcels of real estate. Nor shall we dwell on the alleged magic powers of numerous diet formulas and tabus, patent medicines, mineral waters, or parapsychiatric sittings.

There was a time when future events were thought to be recorded in the entrails of a fowl; and the reading of the entrails of a freshly killed fowl was a very high-class art. Others looked for omens in the arrangement of the stars. Such practices have, for some time, been abandoned by the intelligent; they simply rely on hunches to tip them off. To give credence to a hunch about some future event implies that you have faith in a supernatural spook which can go about in time and space, view a future event, then come back to you and influence your nervous system to feel that said event is going to take place. What other 'mechanism' can one define to account for the reliability of hunches? One must conclude, also, that the spooks are highly mischievous, considering the number of perfectly good hunches that go wrong and the amount of conflicting information they 'reveal.'

Hoaxing the public is an ancient art and much skill has been developed in the practice of it; although surprisingly little skill need be displayed to flummox most people. Much of the success of hoaxing comes from people's willingness to be hoaxed. We are suckers for what appears to us to be simple, uncanny explanations of things; and we are very touchy about having our faith in the uncanny exposed as unfounded. It is as if our judgment were called into question. If dear, sweet, pious old Aunt Betsy should have an occasional 'visitation,' we prefer to believe that she is 'close' to the spook world; at most, we would only suspect her of being slightly 'touched.' Never, never would we accuse her of perpetrating a little fraud for the purpose of attracting attention to herself. Yet, all uncanny phenomena, when checked all the way through, proves to be nothing more mysterious than either very bad misinterpretations of ordinary natural events or premeditated deceit. If collection of funds is involved or personal aggrandizement is in the offing, the odds favor deceit.

'Everyone knows' that the number 13 is unlucky; but, no one has ever offered a practical theory of **how** the number 13 can effectuate an unfortunate sequence of events for anyone.

Telepathy

Many people admit a complete or partial belief in the alleged phenomenon of telepathy—the uncanny transmittal of thoughts from one person to another, sometimes at great distances, without recourse to the usual means of human communication. For example, a young man claims that he and his mother can transmit messages through space. He offers, as an instance, that when he was in town one day, he had a strong feeling that his mother wanted him to get her a spool of black thread, size 50, although she had not mentioned it to him before he left for town. On returning home, so he says, he learned that his mother had concentrated on sending him just that message at the time he had the feeling. Yet, on the basis of many tests conducted under scientifically controlled conditions, no irrefutable evidence of telepathy has been discovered. It usually turns out that the professed examples rely on testimony regarding past experiences, often many years old, and that the efficacy

MY TWO CENTS WORTH

They say when you start thinking about the old days you are getting old yourself, and maybe that is so. But I was talking with Uncle Zeke about how things used to be and we agreed some things have changed for the worst. For one thing, people didn't used to be in such a hurry all the time, even if they did have plenty to keep them busy. You could go to town, and there were places where you could sit and visit with people you knew and nobody was trying to shoo you away. Some stores still have a few chairs for people to sit in, if you know where to find them, but it's just so you can rest long enough to run some more. They're not the kind of places where you want to sit and visit with people or watch the world go by.

If you go into a restaurant, as soon as you finish eating, the waiter starts fussing around your table and makes a nuisance of himself until you get disgusted and leave, which is what they want you to do. Uncle Zeke says when he goes into a bar, they want you to drink your beer and get out, or else buy another beer. You can't just sit there all afternoon like in the old days. I guess you can still go to the library and sit for quite a while, but you have to pretend you are reading something and they won't let you talk; which is why I don't go to the library very much.

Even around home you can't just relax and enjoy yourself doing nothing, what with people coming to your door and the phone ringing and all the radio and TV programs you have to keep up with. And when somebody does come to visit you, they start looking at their watches as soon as they say 'hello,' and they hope you will serve the next meal early so they can eat and be on their way. Why, in the old days folks thought nothing of staying three or four days when they went visiting.

Maybe there is more to living now than there once was, but people seem a lot more restless and jittery than when I was young; and they don't seem to know what to do with themselves if they ain't in a hurry to go someplace. You would think, with all the machines to do the work, people would take life more easy, but they don't. If they ain't out trying to make more money or spending it, life just doesn't seem worthwhile to them anymore. Maybe I am getting old, but I get more pleasure out of loafing than anything else I can think of unless it's helping other people loaf; besides, it doesn't cost nothing. I don't mind working hard when there's work to do, but I sure don't want to make work and expense out of trying to enjoy myself.

— Ima Moron

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of the 'power' appears to fade away when it is put to a controlled test.

According to the latest 'scientific theory,' telepathy is a means of transmitting radio waves of varying frequency and intensity in the form of brain-waves, and these brain-waves are picked up by certain other persons whose brains are tuned to the same frequency. This all sounds very plausible. All that is lacking is the verification, plus a few other unexplained things. It is known from scientific measurement that the human brain does radiate energy and that the frequency, intensity, and patterns of this radiant energy does vary with different physiological states and activities of the body. What is lacking is any evidence that: (1) These variations in brain-waves correspond in any way to the simultaneous perceptions in the brain; (2) that another human brain (at any distance) can pick up these radiations; or (3) that the brain is capable of translating any such 'picked up' radiations into ideas corresponding to those in the brain of the 'sender.' Nor is there any explanation of how a particular brain-wave pattern may be picked out from the millions of brain-wave patterns that must be cluttering up the wave-lanes if this theory were true. (An alternative would be to postulate the existence of spooks, capable and willing of cooperating by serving as carriers of messages between specific individuals.)

However, if it were positively demonstrated that the fact of telepathy did occur (even rarely), then, we may be compelled to assume that the intermediate steps did somehow exist. But the fact of telepathy still remains without verification, in spite of some 'educated' allegations that verification has been achieved. In this connection, let us ask, what would be a greater triumph than a hoax that would fool the scientists?

On the other side, there are some fairly reliable forms of prediction which have been recognized and accepted by man, in some degree, for many centuries. Among these are the statistical and analogical approaches, also the projection of trends derived from these.

Scientific Prediction

The statistical method of prediction is based upon what is already known to be so. For example, it may be predicted that the sun will rise tomorrow, because it has already been observed to do so for a very long time. Likewise, in certain latitudes, there will be freezing cold and snow for part of the year and warmth and rain for another part. We can be quite sure of this, although we have no other means of knowing about it except from repeated past occurrences. One technique of predicting next year's weather for a given locality, day by day, is to take the average for each respective day for the past twenty years. There will be some misses, of course, due to fluctuations from the average, but there will be a surprising number of hits. The statistical approach alslo applies to the predictions of traffic fatalities over holiday weekends, the attendance of spectators at sports events, and the annual revenue from income taxes. The tables of life expectancy issued by life insurance companies are statistical predictions of human longevity based on mass averages.

The statistical technique has been carefully refined in some fields, with the result that extremely precise predictions can be made; and some of these predictions are translated into 'natural laws.' Among these are the law of mass action of chemical molecules, Ohm's law pertaining to electrical currents, the half-life periods of radio-active elements and isotopes.

The analogous approach is somewhat more subtle than the statistical approach and is subject to more error, but it does have a degree of usefulness. Medical men have for a long time predicted the anatomy and physiology of human beings from a study of the anatomy and physiology of dogs. The reaction of white rats to a particular diet may serve as a basis for predicting the reaction of humans to a similar diet. Another prediction by analogy is that man should have a natural life span of 140 years, since dogs and various other animals have a natural life span of about seven times the period of growth from birth to maturity; and 140 is seven times the human growth period of 20 years. An ecologist may note that the rattlesnakes living in a desert, in a swampy lowland, and in a high mountain forest are of three different species; and, from that information, he may predict that other forms of life, say chipmunks, living in those three different environments will also be of different species. Or, one may study the rise and fall of the old Roman Empire and predict that the British Empire will follow a similar course. When it was predicted that it would take Russia some twenty or more years to produce an atomic bomb, that prediction was based on the knowledge that it took the United States six years plus a belief that Russian science was slower, less efficient, and less subsidized than American science.

Some predictions based on the analogical approach are hastily and crudely prepared and far-fetched in their assumptions; such as, the supposed existence of man-like animals on the planet Mars. Or the use of private enterprise commerce and money in an age of abundance. At the other extreme, rather accurate predictions can be made; such as, the prediction of a close similarity of internal organs in two animals that show a close external similarity. Or the characteristics of a chemical element that fits into a sequence on the periodic table of elements. In the latter case, the characteristics of undiscovered or newly created elements can be fairly well predicted even before they have been isolated and studied directly. In the former example, one's prediction may be very close should he compare a rat and a squirrel; but he may 'miss it by a mile' if he compares a mole and a vole.

Trend Study

A highly reliable form of prediction is one based upon a trend study of some specific phenomenon. By studying the course of a comet at a succession of intervals, the astronomer can predict its orbit and the time of its reappearance. Or he can study the courses of the earth, moon, and sun and make highly accurate predictions as to the time and degree of future eclipses. A flood expert can, on the basis of certain measurements, predict the time and height of a floor crest. Meteorologists can study the course of air pressure areas, winds, and temperature fronts and make reasonably accurate predictions regarding the weather for the next few hours. An oil technologist can measure the trend in pressure changes in a specific oil well and predict the viable period of that oil well: Economists note trends in the national economy and make predictions for the future; and politicians note trends in public opinion and 'mend their fences' accordingly.

Trend studies merge into statistical studies and usually draw upon them heavily. The primary difference is that the statistical approach deals mainly with averages, while trend studies deal more with specific examples. Trend studies may also draw upon data from the analogous or comparative technique. For example, a livestock experimenter may put a few sheep into a pasture area and let them reproduce at will. The sheep will multiply, slowly at first, then faster, and finally level off at a more or less constant number at which the death rate equals the birth rate. If the sheep were counted at equal intervals of time and the numbers plotted on a graph, the trend line would be a lazy 'S' curve, known among statisticians as the normal growth curve. Later, should the livestock experimenter decide to put a few cattle into a similar area, he could predict with a fair degree of accuracy what the trend in the multiplication rate of the cattle will be; that is, after adjusting for a slow reproduction rate among cattle and counting one cow as equivalent to five sheep in pasture consumption. Thus, it could be predicted that the numbers of cattle would follow an S-shaped curve similar to that plotted for the sheep. Such predictions are tentative at best, and they are subject to wide error if extraneous factors, unknown or inadequately evaluated, should enter in to influence the growth trend; for example, disease or severe weather conditions.

Experts in the Department of Agriculture try to predict in advance what will be the total yield of various crops for the coming year. First they obtain figures on the number of acres planted (or to be planted) to wheat, for example, then they multiply the acreages in various localities by the average past yield per acre in those localities, and then they total the figures. This gives them the first estimate. Later, on the basis of weather conditions, disease reports, and other pertinent factors, the estimates are revised up or down. This is the best that can be done, provided that the compilations and summaries are done honestly. However, with scarcity values and market speculation incentives involved, one has a right to be somewhat skeptical of the predictions of crop yields, particularly the earlier estimates.

Predicting Human Opinion

Political dopesters usually resort to the sampling method to predict the outcome of an election. By taking a sample of a few thousand voters and finding out how they intend to vote, a prediction can be made as to how the general electorate will vote. If the sample is essentially a cross-section representation of the whole, the predictions may be surprisingly accurate, considering that something as erratic as human opinion is being measured. Sometimes, when an error of only two or three per cent results in the outcome being different than the one predicted, a wail of scorn is poured upon the statistical sampling method of prediction, although an error within two or three per cent generally can be considered very good.

In a similar way, a sample of fish may be seined from a lake, the species noted and counted, and the sizes measured. From that sample, a prediction can be made regarding the total number of fish in the lake, the percentages of the different kinds, and the proportions in each size category. The accuracy of estimates based upon samples depends on the kind of sample obtained (whether it is truly representative of the whole) and upon the size of the sample. The larger the sample, the more accurate can be the estimate. A sample of fish taken from only one place in the lake may produce results that are as lop-sided as would be an election prediction based only on a sample of Wall Street Journal readers.

Statistical Approach

The total content of certain chemicals in the sea water of the world can be calculated rather closely by analyzing a few samples of sea water from different parts of the world.

Predictions based upon probability are closely related to the statistical approach. If we should toss a coin a thousand times, we can predict that it will turn up heads about 500 times and tails about 500 times. In roulette, a chip placed on the black has 18 chances out of 38 of winning; therefore, it is probable in the long run that the player will lose. (He will lose faster if the machine is 'fixed.')

It is estimated that a poker player has one chance out of 2.6 million of drawing a Royal Flush in spades (with no joker and nothing wild); but any other given combination of five cards would have the same probability of being drawn. Unless the game is somehow 'fixed,' the poker player has no other basis than probability for estimating his chances of winning with a particular hand. Gamblers often are superstitious about hunches and other omens, but the successful ones are usually those who play the probabilities. The 'house' depends wholly on probability (unless this is supplemented with a little 'fixing'), not upon hunches or friendly spooks; and the 'house' usually wins.

It is reported that a famous mathematician-philosopher once made the statement that, given enough time and enough space filled with monkeys with typewriters, the monkeys could, by random hitting of the keys, 'write' every book in the library. This statement must have been made in a moment of dramatic enthusiasm while under the influence of intoxication, and this is why:

Suppose there were an unlimited supply of monkeys and typewriters, as well as an unlimited supply of paper, and that, somehow, when a correct line were typed, it would be removed and put into place. Suppose further, that the typewriters had a simplified keyboard, with only 33 characters including the spacer—with no numbers, no shift keys, and no lower case. Also, let us note that there are about 80 characters to a typewritten line (elite type) including the spaces. Let us assume that there is a choice of one billion lines contained in the material in the library. And, also, let us suppose that a monkey and a typewriter will occupy only one cubic foot of space; and that the monkeys can operate tirelessly at the rate of one million lines a year. According to mathematical probability, how much space and time do you think would be required for all those monkeys to produce one correct line—any one of the billion acceptable lines?

Let's Suppose . . .

Let us state it another way: Suppose we postulated a cube of space with 10 billion light years of distance to the side, filled with monkeys and typewriters, one unit for each cubic foot of space, each tapping out a million lines per year. How many correct lines would they produce in a time period of 10 billion years? The answer is 'none'! To get even one correct line out of the billion available, we would still have to add to the factors we have already given some 15 more zeros. How much space and time is there available? Certainly not that much.

Predictions based on probability are tricky, even when one takes into careful consideration all the factors involved. Then, it is only a probability, not a certainty.

Many predictions are what we might call thin-edge gambles; that is, they are little better than outright guesses. One may have a tiny bit of information to serve as a cue and, from that, make a prediction about something much larger and more comprehensive. The cue may be nothing more than a bit of gossip that one has overheard. The sensationalist newscasters employ this technique rather liberally, and they are usually in error, as anyone who has followed Walter Winchell, Drew Pearson, Robert Allen, and others of that kind can testify. Those who commercially dramatize their predictions of things to come also include a large number of inconsequential predictions—based on tip-offs or events of high probability—to keep up their average of hits. They may also make vague predictions, like 'watch for something important to happen next week'; then, whatever happens, they claim it as a hit.

Hunches

Thin-edge gambles are more reliable than pure hunches, per se, although they are often given billing as hunches. It appears that the 'predicter' carries more prestige with the mobs if he can successfully dramatize his hits as hunches rather than as thin-edge gambles. (The less said about the misses the better.) If he is coasting on the reputation of one or a few lucky hits, he must also be well prepared to 'alibi' his failures. Roger Babson was able to coast for a long time on his lucky hit concerning the 1929 stock market crash. Drew Pearson has had to alibi, time and time again, his unfulfilled predictions of specific Russian aggressions.

A person, who has had considerable experience in a particular field and who has a natural high degree of awareness, may develop a 'feel' for knowledge in that field which has certain superficial similarities to an intuition. He has developed a habit pattern around certain observations and appraisals which manifests itself in a subconscious and seemingly mysterious manner. In fact, most hunches and intuitions, so-called, are nothing more than 'educated' habit patterns of this sort. A trained livestock man can take a quick look at a steer and predict within a very few pounds what it will weigh. Similarly, there are people in carnivals who make a living out of 'guessing' the weights and ages of people. Fortune tellers are able to tell a person much about oneself just from a short observation of that person. Merchants do not have to examine goods in detail to know their quality and condition. Military pilots learn to recognize the make and nationality of another plane from a split-second glance of it. Some boys can tell you the make and year of a car from a brief look at it as it passes by. A person who collects something is able to appraise an item of the thing he collects with a speed and nonchalance that appears uncanny to a stranger. A trained card player can 'guess' the exact number of cards in a stack he is holding, the same as some bank tellers can tell you the number of bills in their hands before they count them. These people cannot tell you how they know these things, any more than a person riding a bicycle can tell you how he keeps his balance. If you ask, he will probably say, 'It's instinct, chum, that's what is is.' But it isn't. It's a habit, derived from a combination of natural awareness, a concentrated interest, and considerable experience. A habit differs from an instinct only in that the habit must be learned; the instinct is established by heredity.

Among other forms of prediction, we may include promises and plans. A promise is, in effect, a prediction that one will be capable of controlling events in the future in such a way as to bring about a specified result. Promises are often founded on deceit (e.g., the campaign promises of the Republican candidates in 1952); but, often, those founded on honest conviction and intent cannot be fulfilled for one reason or another. Diplomatic plots and intrigues are attempts to influence future events in a given way and, thus, constitute a form of prediction of what will happen. Some plots (such as, the recent attempted coup d'etat in Argentina) become involved with a number of uncertain or conflicting factors (such as, the oil agreement between Standard Oil and the Peron Government versus the State Department's sympathy for the Roman Catholic Church in Argentina) and the plot gets 'loused up.'

Predicting by Knowledge

The most reliable and most successful plans are those dealing with finite, measurable quantities and which are carefully blueprinted in advance; for example, the construction of a bridge or a building. Even so, such engineering plans sometimes go wrong; bridges and buildings occasionally collapse, a dam sometimes gives way, ships break apart and sink. Such failures are sometimes (but not always) attributable to political or financial interferences which force the contractors to take gambles for the sake of offering a winning bid. Sometimes the failure is due to an inadequate knowledge of the interaction of forces involved.

Technocracy is founded upon a combination of predictions, some analytical, some synthetical. Trend studies have played an important part in the formulation of these predictions. Technocracy was the first to emphasize that technology tended to displace man-hours; and it was the first to predict the automatic factory. Now, everyone is trying to get into the act of predicting that technology makes jobs scarce. It was early noted (and has been continuously verified ever since) that the quantity of industrial production per man-hour of employment is increasing; that fewer man-hours are required to produce a unit of production. The same is true in agriculture and mining. From the study of production trends in relation to man-hours, it has been possible for Technocracy to project a number of related trends into the future in the form of Technocracy's well-known Man-Hours and Industrial Production chart. Other analyses have enabled Technocracy to predict the failure of the Price System. The trends in relation of energy and resources to production have permitted Technocracy to predict Abundance for this Continent. The limiting factor to this abundance (aside from political, business, ecclesiastical, and public intransigence) is the availability of essential resources. Science and technology can do much to overcome this limitation, but whether 'much' will be 'enough' and whether it will be 'in time' are still doubtful. So, Technocracy's prediction of abundance is not presented as a certainty, only as a high probability.

Physical Facts

Statistical data provides most of the foundation for Technocracy's appraisal of the Continent's capacity to produce. Figures on fresh water, soil, forests, fossil fuels, inorganic minerals, and proven technological techniques furnish Technocrats with the material from which they can determine how much North America can produce on a sustained basis. However, Technocracy is not limited in its concepts with respect to production capacity as are Stuart Chase, the Brookings Institute, the Twentieth Century Fund, and other apologists for the status quo.

Technocrats know that almost everything can be done much more efficiently than it is done today, but it would require a different kind of social organization to effect such efficiency. Technocracy stays within the realm of the plausible and probable; it does not project its predictions into the realm of fanciful speculation, as do so many writers who take literary excursions into the future. Nor does Technocracy permit itself to be confined within the concepts of the Price System, as must the govern-

(Turn to Page 27)

The Office Revolution Is On!

THIS present age has often been spoken of as the Iron Age, the Machine Age, and, most recently, as the Atomic Age. It might well be called the Paper Age as any clerical employee can tell you who works in any office where filing, bookkeeping, billing, mailing, checking, etc., are still done with the office machines common thirty years ago. Rising production and government regulations have meant more complexity and therefore more paper work; paper pileup as it is so aptly called. A University of Chicago manpower expert, Robert K. Burns, reports that in the last forty years 'the number of office workers increased four times as fast as the rest of the nation's work force.'

In businesses which have installed automatic machinery in the manufacture of their products, the office staff quite often outnumber the production personnel, due mostly to the antique methods still used in the bookkeeping end. But this need not be the case much longer. It is becoming more evident to the manager that about the only place he has left to cut operating expense is labor costs. Production personnel in more and more industries has already been or is being reduced to a minimum by automation, the new process of machines tending machines. This leaves the accounting processes a glaring offender in rising labor costs. The vicious cycle has begun when a rival manufacturer floods the market with automatically produced gadgets which have also been counted, packaged, invoiced, deducted from inventory, mailed, and then more reordered from the electronic 'brain' in charge of rate of production. Immediate steps to reduce operating costs in order to meet this competition is a must by the company still using antique methods. This is especially true in a tightening economy.

Office automation is coming with a rush in many industries and services. UNIVAC, the star of all office automatic machines, is a digital computer which out-figures a human by 90,000 times. Whole accounting departments can be eliminated by the digital computer, which will, in one routine, prepare invoices, bring inventory up-to-date, keep sales figures current, list back orders, and make information available for sales analysis. At any time, the inventory or sales status of a given item can be learned in the time it takes to feed a code number into the input device, press a button, and read the figure which flashes back. Built-in self-checking features guarantee accuracy. New models are fast coming out with larger 'memory' systems, with transistors replacing the vacuum tubes and with printed wiring circuits. These are less than half the size of the older models and use but five per cent as much power. Production and maintenance are greatly simplified. International Business Machines' computer of this type will get out, monthly, 900,000 bills with a staff reduced by 200 employees, for the Commonwealth-Edison Company. A Chicago wholesaling firm has been using an electronic computer to keep inventory with a staff of ten women replacing 150 trained tally clerks. As if it were not enough to have computers already able to 'remember' hundreds of thousands of individual bits of information, a new device has been developed by the Electrodata Corporation which will boost their 'memories' by 60-fold.

Memory of Reservations

One of the leading users of this type computer will be the large ticket offices of air and railways where reservations can be fed in and 'remembered' electronically. If a reservation is requested that is already filled the machine will present several alternates which can be had. The number of clerks which this will displace is untold.

The army is installing a mammoth electronic brain in Detroit to keep inventory of the replacement parts needed to keep all U. S. military vehicles running. This one device will replace 350 clerks according to press reports, and it will do in minutes what it took clerks a month to do. The 'brain' will keep track of every fan belt and wing nut the army buys and when it sees stocks are low on any one of the 450,000 items it will flash a warning to buy more. In strict army tradition, its answers are typed out in triplicate.

Department stores which sell many items will soon be offered a new system of sales and inventory keeping by National Cash Register Company. This new electronic sales accounting system will: transmit a complete sales record of each item sold direct from cash register to an electronic computer via a ticker-tape attachment on the register; keep up-to-the-minute count on inventory by recording incoming shipments by way of similar tape attachments on adding and accounting machines that record incoming goods; compare inventory with sales at any given time and teletype it to any given department. Keeping track of detailed sales and inventory is one of the most time-consuming and costly operations for department stores, because of the thousands of different items which are carried, many in varied sizes, styles, and colors. Inventory must be kept up-to-date in order to make sales. With the new device operating costs can be reduced phenomenally, and accurate information can be had within minutes after it is requested, thus also cutting the one- to two-day lag that has always been the best that could be done with human help.

Replacing the Salesman

It has been hoped that at least the salesman could not be replaced but here enters the coin-operated machine which dispenses nylons, hot coffee, ball-point pens, and what-have-you. Then to help speed up the salesman who is still on the job Electronics Corporation of America has come up with the Magnefile which takes inventory continuously, records sales, automaticaly figures federal and local taxes, and typewrites the sales slip in a matter of seconds. Operated at the point of sale this recorder also computes and 'remembers' the number of items in stock after subtracting the sale, and figures the clerk's dollar sales volume.

Electronically-operated filing systems are not new any more; they have been around for several years; but one of the latest models lets a clerk find any one of 80,000 or more record cards in seconds at the push of a button and can be worked by as many as three clerks at the same time.

Complete mailing crews can be abolished by installing one machine called an Inserting and Mailing Machine. This machine performs seven intricate operations. It inserts up to eight enclosures in the envelope; moistens the flap and seals envelope; meters postage and prints indicia; counts the total mailing and stacks. Wherever they have been put into operation they have reduced costs by as much as 80 per cent.

What will happen to the employee as his job is taken over by an electronic 'brain'? Will he have to compete with the automatic machine? (Which is the 'precise economic equivalent of slave labor' as Norbert Wiener said in his book 'Human Use of Human Beings.')

A Magazine Reiterates

The magazine 'Management Methods' for January 1955 has this to say, 'Human beings are going to be displaced in staggering numbers by electronic equipment. Productivity will soar as white collar employment and purchasing power drop. This economic imbalance must be anticipated. It isn't realistic to say that we have gone through one "Industrial Revolution" and, after a period of adjustment, were able to improve the standard of living of all people. The effect of electronic equipment on our economic life is of the same magnitude as the effect of the H-bomb on our military strategy.' Over the last 50 years as mechanization in production took place and men were replaced by machines, they were able to find jobs in the non-productive fields, one of the main ones being the white collar or office jobs. Now these jobs are on the way out because of electronics. This 'revolution' won't take another 50 years or even ten. Because of rising costs and competition the automatic office is on its way within the next very few years. A computer system costing 1 million dollars will pay for itself in three or four years if it replaces only 50 clerical workers.

Production went up 5 per cent and employment fell 4 per cent in 1954. Credit buying was expanded to unprecedented heights, government spending was carried on at a high rate, certain men-about-the-world hurried hither and yon trying to drum up a little war (in this case, business) in order to keep the old Price System from stalling out. But it all won't be enough, because of the relentless march of technology. Science comes up with automatic offices and the last vast pool of employment is beginning to be disemployment. This apparently was foreseen by the technologist because machines have been invented to take care of that. All New Jersey state unemployment insurance claims are

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When The Floods Came

THE TWO MONTHS of July and August, 1955, were very bad months, weatherwise, for the northeastern United States—but in opposite ways. For this period, the northeast drew the weather spotlight which, more often, is turned on California, Kansas, or Florida, in about that order of frequency.

July was the hottest and driest July on record. New York City recorded a total rainfall for the month of 0.37 inches, most of it coming during one night, when the allotment for July usually ranges above four inches. Farm crops in the general area were drying up and many were unfit for harvest. Lawn and pasture grasses, unblessed with irrigation, had quit growing and were turning a straw yellow. Some localities had caught one of the 'scattered local showers' during the month, but its effect had dissipated within a few hours. The sky-watchers, which included almost everyone now, were looking for storm clouds, not enemy planes; and the general prayer was for rain. That prayer was to be 'answered' with a vengeance!

There is an old story that fits the situation perfectly. You probably have heard it and thought it was funny; but it wouldn't have sounded funny to the people in the northeast this last August. It seems, so the story goes, that a section of the south was suffering a severe drought one summer, and the people were all praying for rain. A certain negro preacher gathered his congregation together and they prayed for rain with a zeal that has seldom been equalled anywhere. Within a few days the rain came. And it came hard and heavy and it lasted a long time. The valleys were flooded and the hillsides were being washed down into the swollen rivers. In desperation, the negro preacher gathered his congregation together again to call upon the Lord for deliverance, and this was his prayer. 'Dear Lawd, last week we met here and we prayed for rain; and, Lawd, we sure needed that rain. But, listen here, Lawd, this am plumb ridiculous! Amen.'

August was the wettest month on record. Some places received an average of nearly an inch of rainfall per day. Within the first week, the July dry spell was broken with scattered and severe electrical storms, some of which poured more than two inches of rain on the localities where they hit. This water was quickly sopped up by the very dry ground. There were broadcast reports of a new hurricane, called Connie, forming out in the Atlantic Ocean; and, normally, she would not have been given a second thought, except that only last year, three big whirly winds from that same hurricane cradle had swept across the northeastern states. So, Connie was to be watched as no hurricane in history had ever been watched. The whole Atlantic seaboard was alerted and everyone was kept in jitters for days. But Connie loitered around for a week, remaining almost stationary off the Carolina coast for three days, causing extra high tides to lash the coast and in the meantime steadily losing her force. Then she came inland, sweeping across North Carolina into Virginia. According to the radio reports, Connie was nearly played out, no longer a hurricane, not even a good gale. In other words, she had become a weak sister—only, if you happened to be in North Carolina or southeastern Virginia, you said that with a smile. All warning signs were ordered down; the public was assured that all danger was past; the weather bureau pronounced Connie was dying somewhere in Virginia, possibly being able to find her way into Pennsylvania before emitting the last gasp, then they quit reporting on her. The world's best watched hurricane thus was dismissed and forgotten.

But Connie was a viper and she did not die. Late Thursday, August 11, she leisurely worked her way into eastern Pennsylvania, New Jersey, and New York, with steady winds of 30 to 40 miles per hour, accompanied by almost steady rain for nearly 36 hours. More than a foot of rain fell in some places; more than six inches everywhere else. The once-dry ground became saturated; the streams flooded to near record marks, piling up considerable debris; a few localities were inundated. But only moderate

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Have You Observed?

. . . With large scale warfare a dim prospect for the North America Price System, at least for the moment, domestic problems are apt to become acutely embarrassing in the months ahead. Another bumper harvest is about to be added to the present fantastic stocks of agricultural products. The problem which is accumulating is urgent enough to cause one individual to make the idiotic proposal that unarmed bombers be used to 'bomb' U. S. enemies with our surplus foodstuffs, if they won't accept them any other way!

. . . If we think we've got a problem now, wait awhile. For example in wheat production, strains of wheat are being developed which will double and even quadruple per acre production. Applied science has produced an abundance of foodstuffs which, to the Price System, is entirely undesirable, and which is destroying the system regardless of what anyone thinks about it.

. . . The arrival of 37.4 million babies in the past ten years in the U. S. is acclaimed by business as the best assurance that can be had of continued business prosperity. Business simply drools at reports from the surgeon-general's office that 4 million babies were born in 1954, and the net increase of the U. S. population is one per twelve seconds. If babies are all that are needed to produce prosperity, why aren't China and India the most prosperous nations on the face of the earth, instead of the most poverty-stricken? It makes one wonder how much longer the U. S. will maintain its position as a great power, under the influence of such reasoning.

. . . It seems that more is required than backs to clothe to keep the Price System operating. Now with an overwhelming desire for peace emanating from points all over the world in recent months, already the effects of peace are being felt in the North American economy. Uncollectible debts are running 10 per cent ahead of a year ago. Ten million families in America are reported to be 'seriously entangled' in debt, according to the Wall Street Journal. Bankruptcies are the highest in the country's entire history. There are, in these times of 'prosperity,' reported to be 141 'depressed areas' in the United States. Even the psychology of Dr. Norman Vincent Peale, which apparently has been adopted by business, is not enough to overcome multiplying indications of widespread economic trouble ahead. Dr. Peale preaches that success results from a state of mind. So business has racked up some fancy sales records in the last year. So what? So now creditors demand the customary pay off—and millions can't meet it. That's something a sucker can really be positive about—when he can't pay his bills.

. . . 12.5 billion dollars is represented in conditional sales contracts for automobiles. Still, with easy credit and every other inducement to buy being offered the public, a steadily increasing capacity to produce leaves the number of new cars standing around waiting to be sold at about 900,000. A typical Price System solution to the problem would be: step up the speed limit to, say, eighty-five miles per hour; give a license to every incompetent who could pay the price; and then cease repairs on the highway system, which has been a tax burden to business. Think of the 'free enterprise' possibilities. The annual casualty rate on the highways ought to be doubled at least, which should result in a vast increase in business for hospitals, morgues, wreckers and junk yards, and an increased demand for vehicles. On the other hand, we could be intelligent: put the vehicles in motor pools, reducing the number required for transportation by four-fifths; screen out incompetent drivers; and build decent highways to travel upon, instead of attempting to enforce safety by political decree. Technocracy stands ready with the answer to the traffic problem, too.

. . . There are many reasons why people of North America shall become more interested in Technocracy with time. The most important one is that there is nowhere else to go for information which is reliably interpreted. Technocracy remains the one and only answer which fits the problem of abundance, peculiar only to North America.

—Harry Briggs, 12247-1

DEVELOPING TRENDS

CRISIS SEEN IN SCHOOLS

FORT WAYNE, Ind.—The "worst classroom and teacher shortage in history" this fall was predicted by Carl J. Megel, Chicago, president of the AFL American Federation of Teachers.

"While low salaries are the principal reason for the shortage, many dedicated teachers have quit simply because they feel they cannot work adequately under existing conditions," Megel told the AFT executive council. The federation's five-day convention was held here.

Megel said 75 per cent of America's teachers have no job tenure protection, merely holding their jobs from year to year.

"Teacher baiting is an increasing factor," he complained. "The number of teachers fired for nebulous reasons this year, in the face of the shortage, appears fantastic."

Megel said an AFT survey shows 350,000 to 500,000 more classrooms are needed, and added:

"It is becoming more and more apparent that the states and communities are in need of physical and financial help and guidance."

—Associated Press

—America's junior citizens cannot grow up and keep America great without education. Our vast array of technology, which gives us our standard of living, is built and operated because of 'know how.' You aren't born with 'know how,' someone has to teach you.

ELECTRONIC BRAIN RUNS LOT

WASHINGTON—Another do-it-yourself wrinkle has arrived: Two park-it-yourself automobile lots are open for business.

You drive up to something that looks like a gasoline pump except that it swings a semaphore-like gate across the entrance to the lot. If you are eligible to enter the lot, you drop a little plastic card into a control box and the box reads the card. If the card is the right kind, the gate opens.

The control box can be set to let customers with one kind of card in at some hours and customers with other types of cards in at other hours. An electric brain that computes the going and coming of cars flashes red when the parking lot is full.

—The Oregonian

BRITAIN'S SALES TO CANADA DROP

FREDERICKTON, N. B.—Sir Archibald Nye, British high commissioner (ambassador) to Canada, says he is alarmed over a sudden drop in Canadian purchases from Britain. He said Canada last year spent $2 in Britain for every $3 spent by Britain in Canada.

Sir Archibald blamed United States "high-pressure methods," the nearness to United States markets and slow deliveries from Britain.

—Seattle Times

SUN FURNACE TESTS METALS

SAN DIEGO, Cal.—War surplus searchlights are being used by an aircraft company to concentrate the rays of the sun into a spot of 7000-degree heat smaller than a dime.

The novel solar furnace has been developed by the Convair division of the General Dynamics corporation in San Diego from three 60-inch aircraft searchlights that cost only $400 each.

The metal mirrors of two of the searchlights are used to create the heat, which is used to test materials used in airplanes and missiles.

The third searchlight has been kept intact and is used to focus light on the other two mirrors on days when there isn't enough sunshine to keep the solar furnace operating.

W. F. Radcliffe, engineer in charge of the plant's thermodynamics group, said the highly polished mirrors of the two searchlights concentrate the rays of the sun on a spot only three-tenths of an inch in diameter.

On that spot, the temperature reaches more than 7000 degrees, about 1200 degrees higher than the heat developed by an oxyacetylene torch.

Under idea atmospheric conditions, the furnace can produce temperatures up to 8000 degrees.

Specimens to be tested are held before the solar furnace in a special attachment. The intense heat melts the more common materials, and some actually are shattered by the sudden ray of heat.

—The Oregonian

'WEARLESS' TEXTILES

Economy-minded Canadian defense chiefs, seeking only to slash the annual bill for replacing worn-out uniforms, have developed a new spinning process that increases wearing qualities of standard textiles from four to ten times.

Not only does it promise to revolutionize a large segment of the textile industry, but the inventors forecast that clothing made from the new yarns may have to be "thrown away to get rid of it."

However, the average budget-minded civilian will get no immediate benefit from the discovery. Though seven Canadian mills already are turning out the new cloths in commercial quantities, and though the United States Government, under a reciprocal agreement with Ottawa, is issuing contracts to American firms, all this production is earmarked for military use.

Once defense requirements are met, a wide range of civilian application will be possible. The process is not confined to any one type of fabric, but can be used with silk, cotton, wool, or any of the standard synthetics.

—Christian Science Monitor

WESTINGHOUSE ABANDONS 'FAIR TRADE'

NEW YORK—The Westinghouse Electric Corp. announced that it has abandoned efforts to enforce "fair-trade" pricing on its small appliances and that storekeepers now may charge customers whatever they choose.

Included in the firm's small appliances are toasters, electric mixers and electric blankets.

"Actually, we believe in fair trade," said John J. Anderson, manager of the portable-appliances division. "But, under present conditions, we do not believe it is workable."

Fair-trade laws, in all but four states and the District of Columbia, authorize manufacturers to set and enforce minimum store prices for their products. General Electric Co. and the Sunbeam Corp. said they do not plan to drop fair trade on their small appliances.

—N. Y. Daily Times

THEY DON'T ACT LIKE THEY TALK

Are business men as devoted to "free competition" as they say they are? In just one week, the Federal Trade Commission made these charges:

Eighteen manufacturers have been fixing "uniform prices" for rope and twine, all over the country.

One big paper company is "restraining competition" by buying stock control of another big paper company.

Fifteen importers and their trade associations are conspiring to monopolize and control importation and sale of Mexican twine.

The FTC "issued a consent order ending a conspiracy to fix prices and restrain trade in Alaska's clam industry." In this case the clam canning companies used a union to help enforce their price-fixing scheme.

—Labor

SPEEDY, COST-CUTTING MACHINE TOOL

MILWAUKEE—A machine tool that turns out finished work twice as fast as existing equipment and cuts machining costs by as much as 50 to 75%.

That's the claim Mercury Engineering Corp., a small Milwaukee machine builder, is making for the "Copymill," a new tool designed mostly for finished machining work on big aluminum components for the aircraft industry.

One secret of the new equipment's extra speed is an overhead traveling mechanism that holds the cutting tool. Using it, the forging or other piece to be worked on stays stationary. With conventional equipment of this type, notes Mercury vice-president M. L. Bengston, the cutting tool usually stays in place, while the work piece is moved back and forth.

That feature, claims Mr. Bengston, lets the "Copymill" take up 50% less space than conventional machinery. The machine, he says, can work on a piece of any length and up to 10 feet wide.

The new-type cutting tool has plenty of help to do its machining. It's guided by a three-dimensional electrical-hydraulic contour duplicating system, a form of tracer control. And it can be equipped, too, reports Mr. Bengston, to use digital controls, a new method that employs magnetic tape or film to help guide a machine's operations.

—Wall Street Journal

GLUT OF 1955 AUTOS ACUTE IN N. Y. AREA

NEW YORK—The New York Times reported that the metropolitan area is glutted with more than 212,000 unsold new automobiles—three times the normal dealer inventory at this time.

As a result, the newspaper said, dealers are resorting to "fantastic promotions" in an effort to cut surplus stocks before the 1956 models go on sale. The first of the new cars is due soon.

Techniques for disposing of the overstock have become so "weird and unwholesome," The Times said, that the Better Business Bureau is "deeply disturbed."

The paper reported the glut is most acute in a 50-mile area around New York and in the Dallas, Texas, area.

The trade estimates that by the end of next month, when virtually every manufacturer will be offering 1956's, warehouses and lots will be swamped with more than 100,000 new 1955 vehicles.

Many dealers complain they are operating on margins so thin that sales are being made at a net profit of $15.

The Times said:

"Among novel and legitimate promotions are offers of free trips to Paris or Miami and other giveaways. In the long run, these tactics provide dealers with better profits than straight cash discounts or over-allowances on trades, and the customer is reasonably satisfied.

"However, some dealers are trying trickery to get prospective purchasers to salesrooms."

"One big local dealer is trying to promote sales by offering a 1953 car free with the purchase of a 1955 model. The free car has been reconditioned and has new tires and extra equipment and it is almost impossible to tell its original used-car status.

"The deal offers the seller a good edge, not only because he might dispose of two cars, but because the current auction prices for similar used cars are slightly lower than cash discounts on straight trades being offered by other outlets.

"Another unsavory practice noted by the better business bureau is an offer to take back the 1955 and exchange it for a 1956 model at no extra cost.

—Seattle Times

SURPLUS BUTTER MELTS; MOST OF IT GIVEN AWAY

Uncle Sam's mountain of surplus butter has melted down by 50 per cent during the past year, the Department of Agriculture jubilantly reported.

How was that done? By giving most of it away. Secretary of Agriculture Ezra Taft Benson gave 187 million pounds to schools and other public institutions and 158 million pounds to foreign relief. Another 85 million pounds was sold at cut-rate prices. As a result, out of $285 million worth of surplus butter shipped out during the past year, the government lost $255 million.

—Labor

—You lost $255 million as an American taxpayer during the past year just so you could keep the price of butter high. There must be an easier way to keep the farmers and large agriculture corporations on relief.

WHEN THE FLOODS CAME

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damage was reported, practically none from the wind, mostly from floods and high tides. Connie moved northwestward, dripping water beyond the Great Lakes, and disappeared.

Well, in these parts, things like that happen only once in fifty years (or a hundred), so the public settled back for the serene life again. Hurricane Diane was being born out in the Atlantic, but she was a long way off and was not to be worried about. But Diane came inland, also, and did a repeat job of messing up the Carolina coast and took a swipe at Chesapeake Bay. Then she quickly lost strength, ceased to be a hurricane as she moved northward through Virginia. Her wind velocities soon dropped below gale strength (defined as over 45 mph). According to hurricane standards, she was well behaved (if you discount what happened to the Carolina and Virginia coasts). And it was announced over the radio that Diane had died like a lady out in the wilds of Virginia. The weather prediction for the next day called for 'cloudiness, with lights winds and some scattered showers.'

Late Thursday afternoon, August 18, a steady wind of about 20 to 30 miles per hour moved northward up the Delaware Valley into western New York State and northeastward into New England. Along with the wind came rain, steady and fast, for about eleven hours. Another six to twelve inches and more of water was dumped on ground that was saturated and all of it poured into runoff channels which were already cleared for fast action. Next morning the sky was clear, the sun was shining, and there was a brisk, almost dry wind from the northwest. But the night had been one of terror and destruction for many thousands of people.

Record Flood

The flood crest on the Delaware River exceeded the famous record high flood of 1903; all bridges from Port Jervis to Bristol (more than a hundred miles) were out or impassible. Power and communications were 'out' over much of the area. The dead and missing were being tallied and the score was mounting. Water stood 21 feet deep in the lower parts of Trenton and four square miles of the city were under water, including the bottom floor of the State House. The tributary creeks reached such crests that the old timers agreed there had never been anything like it before, ever. The resort area of northeastern Pennsylvania and parts of Massachusetts and Connecticut were the worst hit.

When the water began rising the evening before, the people were reluctant to move out of its way, or even to prepare for a serious flood. For more than fifty years, there had been no big flood to worry about, and they just couldn't believe that it would happen to them now. As the water kept moving up, some people did carry part of their furniture upstairs; but most of them just sat around watching the 'show.' Finally, when the water began coming in through the doors, they gathered together an armful of things, rounded up the dog and cat as well as the kids and hurried to higher ground—those who could make it. Some went upstairs instead, and many of these had to be rescued from the rooftops. Others found themselves suddenly surrounded by water, and these had to be picked out of trees in a miserable condition next morning, except those who were 'missing.'

Heroic Organizations

The National Guard hurried to the rescue and all local police were put on 24-hour duty. The Civilian Defense tried to do something, but it was not organized for an emergency, and watching the skies for enemy planes did not seem to fit the occasion. The Red Cross was very actively collecting funds and appealing for more blood and money; it announced an allocation of two million dollars for this disaster and set a collection goal of ten million dollars. It handed out some emergency items of food, clothing, and blankets to the most desperate cases. That great pick-handle defender of the 'American Way,' the American Legion, evidently was unprepared to help preserve physical America; for, it was not even mentioned as a participant in the relief work. Army and Navy helicopters were buzzing all over, aiding materially in the rescue effort.

When the water receded, many low-lying dwellings were uninhabitable; some had been shifted, undermined, or carried downstream. All were filled and coated with stinking muck. Numerous mills, factories, warehouses, riverside restaurants, and other business establishments were wrecked or severely damaged. Aside from the damage done by the water, mud, and high humidity, much was done by

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A Call To Action !!!

NORTH AMERICA, the area we claim for ourselves, and which we have fought to protect against foreign encroachment and internal dissolution, today is the scene of the gravest problems ever faced by any civilization. It is not a matter of being unnecessarily alarmist. Words will not describe the seriousness of problems peculiar to this Continent which give prospect of making themselves felt soon.

The worst feature of the social scene in North America is the utter lack of concern of most of its inhabitants for the problems they will be forced to deal with in the not too distant future.

It is as though the citizens of the Continent were on a howling drunk, en masse. They're having 'a helluva good time.' They don't want to be bothered with problems. If they're not out fighting a flood of traffic on a crooked and narrow highway, they're plunked before a TV set, watching some third rate murder mystery or some individual who is accredited with being funny. They won't even watch the news of the day if it can be avoided, (which probably is all right because it wouldn't contribute to their understanding anyway after the editors give the news the proper propaganda twists).

No Plan of Action

From all appearances, it is going to take a terrific jolt to snap the North American public out of its present slaphappy state of mind. Maybe it will take something like the recent flood disaster of the eastern states, only magnified a few times. After the flood waters subsided, the victims asked, 'What are we going to do? What's the next move?' They were completely at a loss for answers. There is no plan of action for disasters like this under the present North American social system. Yet, the future holds in store for the citizens of this Continent far more critical times than anything yet experienced in the form of floods, depressions, droughts or anything else you want to think of. But these days of crisis, and possibly disaster, will not be caused by 'acts of God.' They are being manufactured by the inhabitants of North America.

Time was when human beings could draw upon past experience to meet current problems. This is not so today. Yesterday, one might have avoided problems he didn't want to face simply by running from them. Today, it isn't even possible to run away. Nothing we might have learned of commonly understood and discussed methods of social thought can contribute anything to an understanding of our present social situation. We are in the midst of an entirely new social situation for which there is no precedent. This is one of the most difficult things for us to appreciate.

The problem before North Americans may be summed up thusly: the entire machinery and technique of the social operation in North America have been rendered obsolete by the technological progress of the past half century. All of the theories and methods of maintaining social organization, whether they be concerned with the distribution of goods and services or of maintaining law and order in the process, no longer apply realistically.

Long before the people of North America ever heard of Technocracy, technologists who are responsible for its existence were at work charting the trends which were carrying North America into a new era. These men perceived and brought into proper perspective problems only now being recognized by some of the citizens of this Continent. Fortunately, the task of analysis of social change fostered by technological advances was begun soon enough to give the citizens of North America a chance to understand their implications to this civilization. If a group today such as the Technical Alliance, which began its study in 1918, were to attempt the research which comprises Technocracy, chances are North American civilization would be destroyed by its problems before their nature could be determined, and a solution brought forth to combat them.

Every trend and development taking place on this Continent today bears out Technocracy's original analysis and contention that North America is coming to the parting of the ways with its present social system, and that a new method of social operation must supplant it if this civilization is to go on. Is this a problem of adjustment for the present 'public servants' to bring about? Many people are naive enough to think so. However, it is pointed out that politics is interested only in maintaining itself in control by preserving status quo conditions, and that it is not capable of dealing with problems completely foreign to its methods. Then who must accept the responsibility for adjusting to social change? Technocracy's answer is: every capable man and woman on this Continent must accept a personal responsibility for understanding and solving the social problem common to all.

Future in the Price System

While hourly every aspect of the problem created by the conflict between technological progress and the outmoded Price System of North America continues to exert ever greater pressure, business and politics are busy painting rosy pictures of the future of North Americans under their domination. Statistics concocted by these factions are presented to prove that we have never had it so good, and that the future is guaranteed if we string along with them, for we are blessed with a social system that has worked miracles for no other apparent reasons than that we subscribe to 'free enterprise' and Christianity. Thunderous orations extoll the virtues of the system and its founders, intimating that they are unearthly manifestations, not to be questioned but to be revered. To question or to criticize is to show disrespect unworthy of a true and thankful North American. The lush war years, providing lots of jobs, current lavish spending, high-pressure salesmanship, and witch-hunting to intimidate those who are inclined to disagree with the system, has produced temporary support for the objectives of business and politics.

To show how good our social system is, the standard gag is to compare our standard of living with the Russians; for example, showing how many less man-hours we work to purchase shoes, suits, automobiles, foods, etc. An all-important point is made in this propaganda, though it is not intended to be interpreted intelligently.

The citizens of North America are working less and less man-hours but are producing ever greater amounts of goods and services of every description, so that the whole process has gotten out of control. Literally mountains of foodstuffs are rotting in storage. Durable goods are being turned out in such profusion that, in many respects, the market already is swamped.

To keep goods moving, credit has been extended to the point that since 1946 private debt in the U. S. has increased by 250 per cent. But credit expansion, open full blast, isn't enough to keep goods of all descriptions from piling up higher and higher. New methods are being introduced into industrial production at a greater rate than ever before, which, under a social system distributing goods and services on the basis of selling man-hours in return for purchasing power, makes the problem of distributing an ever increasing production impossible of solution, because technical improvements and new methods of production require less, not more, man-hours.

The evidence of technological trends reducing man-hours on a per unit of production basis is commonly understood. While the Continent was in a transitional period from agricultural activity to the factory type of industry, there was a great demand for workers. But as the factory became more highly mechanized, the per unit of production decline in man-hours began to compel a decline in total man-hours in industry. This process was first detected and projected by Technocracy as the fundamental problem before this Continent. There has been a lot of yammering and disagreement about whether machines do or do not make jobs. This is now being settled once and for all.

Miner's Jobs

At the time of World War I, there were 700,000 coal miners. By World War II, the number of coal miners was cut to roughly 400,000. But technological advances made possible the production of 120,000,000 tons of coal, more than during World War I. The present strength of the miners is down to about 230,000 and still declining, as new technology, such as the latest cutting machine the Joy Company has introduced, mines coal at the rate of eight tons per minute. Left in the wake are thousands of miners without jobs and no prospect of finding any, and who are forced to go on relief to keep from starving.

In the last fifteen years employment on the railroads has declined by 392,700, according to the Bureau of Labor Statistics. Today, railroads handle eighty-three per cent more tonnage per train than during the 1921-1925 period. Technology is revolutionizing this entire industry.

The textile worker is having an opportunity to discover that machines do **not** make jobs. Since 1940, there has been an overall decline of 287,000 jobs in this field of industry, which amounts to a reduction of about twenty per cent in the total textile labor force.

In agriculture there has been noted a twenty-seven per cent decline in man-hours since 1940. In the last five years, the farm population has decreased by 3,000,000. Yet, production of agriculture is so great that over seven billion dollars of its products are stored to enforce a degree of scarcity, and at a cost of one million dollars a day to the taxpayer for storage space, so that he can have the 'privilege' of paying higher prices for the foodstuffs he consumes.

A Refined Development

Though technological changes have already raised havoc with the Price System by creating an abundance which cannot be distributed under its rules of scarcity, new processes and improved methods of production are coming into use faster than ever. All the rage in industry—a refined technological development, not exactly a new one — is the automatic assembly line, operated and controlled by technology with no human effort, except for minimal maintenance. There are no human workers on such an assembly line. In one year, 1954, through technological improvements, the productivity per worker is reported to have risen six per cent over the 1953 figure. More production was accomplished with 581,000 fewer workers in 1954, than in 1953. This is how 'machines make jobs.'

Proponents of the Price System see and fear the challenge of technology to the system. The 'big kids' in business are fighting for control of the economy, which has compelled them to eliminate competitors smaller than themselves, one way being to modernize their plants to reduce labor costs. Mergers in business now is the order of the day. The net effect is to consolidate and centralize control of various types of industrial activity and financial operations. Since 1945 there have been more than 7,500 mergers in business involving companies and corporations big enough to receive notice. Business has seated its most prominent representatives in the President's Cabinet. The Congress has become largely a body of rubber stampers, if it was ever anything else. In politics, business, the unions, ecclesiastics and every other group of any consequence, with the notable exception of certain groups devoted to science, there is one thing these factions have in common: they are determined to keep trying to make the Price System of North America function, regardless of the cost to the inhabitants of this Continent or the world. They are establishing ever closer cooperation among themselves to that end. In the name of God and the Price System, they would be quite willing to wage a third world war, if such action would keep the system alive another hour.

The Price System is also warping and perverting the use of technology on this Continent in ways other than preparation for war. The naturally savage attack of the Price System upon natural resources has been made vastly more savage with the use of technology. Technology has enabled the Price System to reach and use resources formerly protected by the puny inadequacy of human toil to reach them. Serious shortages of vital and irreplaceable resources are beginning to come to public attention. Use of fresh water in the U. S. is at the rate of 100 billion gallons, and better, per day. Ground water is being used at a rate greater than it can be replaced by natural processes. More than 1,000 communities in the U. S. now are imposing restrictions upon the use of water. Still, neither politics nor business contemplate any substantial step to control the runoff of fresh water from this Continent, though it is entirely feasible, and urgently necessary, to construct a system of dams to cut down the rate of runoff, so that the waer table may thus be raised from the dangerous low it has reached in some areas, as in California and even areas along the eastern seaboard that receive heavy rainfall. But such a system of dams would be expensive, and would not provide a very quick return on the investment. So, in the usual fashion of politics, another law is passed as the 'answer' to the problem.

Oil Supply

The U. S. has crowded over 61,000,000 vehicles on its highways to date. They are designed to run on petroleum, but that indispensable stuff is apt, soon, to be like the little man who wasn't there. Average domestic production per oil well has dropped to eleven barrels a day. Demands for petroleum products are increasing. Where is the oil coming from? Chances of hitting an oil pool of any consequence in the U. S. are 991 to 1 against the wildcatter. Can other countries of the world be expected to give up their supplies of petroleum to the U. S. so that 60, 70, or 80 million vehicles can be kept in operation for the benefit of America's suburbanites? America's forests, its copper deposits and other resources have gone the way of its water and petroleum.

The Price System has made the application of technology to this Continent the source of an unmanageable abundance, and the cause of potentially disastrous shortages of necessary resources. The system is trying to make a monster out of an untiring slave, created out of human intelligence for the release of the human creature from toil. So far, it can only be said that North America has the capacity to do great things. Without designed direction, without a blueprint and social objectives, North America cannot go much beyond its present stage of development. This is what reactionary ecclesiasticism wants to see—a freezing of social progress, and retrogression, using the power of science to maintain scarcity, superstition and fear. It is what business and politics want to see, and it is why these three factions work together to undermine and destroy the social benefits of technological progress wherever possible. Under the deleterious influence of the Price System, already North America is losing ground as regards its technological superiority. The whole civilization is in a state of decline because under the Price System it has nowhere to go. It is observed in life that things either are growing or dying. Unless resuscitation is forthcoming soon from the citizens of this Continental area, in the form of a decision to go somewhere instead of trying to stay in one place, this civilization will grow old and die long before its time.

Scarcity Is a Thing of the Past

The only possible excuse for the Price System to this point in our history is that until the turn of the twentieth century, the human race in North America was afflicted by the age-old condition of scarcity, because of the fact that goods had to be produced by hand tools and human toil. That age is past and done. Our thoughts and actions must conform with the times if we are to make North America a decent place in which to live.

Technocracy has been ready for years to present the Design for a New America to every citizen on this Continent. Technocracy is the embodiment of the principle of service to North Americans without price tags. This Continent has everything to do it with. Efficiently managed by technologists, instead of politicians, and businessmen, North America's industry and resources will serve its inhabitants well for centuries to come. The release from fear and insecurity generated and sustained by the Price System cannot help but bring the great improvement in the human being that someone is always saying cannot happen in this world.

There is not much time left for North Americans to decide between abundance with technological social operation, or scarcity and more of the same. In either case, for all practical purposes once the decision is made, it will be a lasting one.

The citizens of North America have been conditioned to look to individuals prominent in business and politics for answers to problems affecting them. Especially in the last two decades, the politico-business administration of this Continent has resorted to momentary answers to long range problems, showing no inclination to be concerned with a basic solution to social difficulties which have been plaguing this society. The substitution of expediency for a strategy of social operation has solved nothing, but instead has amplified every aspect of our difficulties.

Solution Unique

There is no time to attempt to solve parts of the problem on a gradualist basis, even if we were so inclined. A special and unique approach is required. Technocracy has assumed the responsibility to gain and maintain a constant evaluation of data of social significance to North America. From an engineering viewpoint, the data are coordinated to form a picture of trends and development. From the picture Technocracy has projected, a design of social operations which conforms with the nature of the problem emerges.

Not having other avenues for the dissemination of its information, Technocracy has constructed its own. Technocracy is training its Members to present its findings to the people of North America in anticipation of a demand for this information, as present powers-that-be prove themselves to be more incompetent to control the economy. This is not necessarily a task that anyone may want, but it is one that someone has to do. Though the Price System and its representatives seem bent upon wrecking this civilization, the Members of Technocracy are doing everything they can do to give enough information to the public so that this event may be prevented.

The next step to scientific social operation is natural, and it should be easy. If it is tough, North Americans can blame no one but themselves.

—Harry Briggs, 12247-1

WHICH:

Just More Education etc.

Our millions of cuddly North American boys and girls are waiting for an education. Since we produce babies in assembly-line quantities, can we educate them to become intelligent, individualistic, grown-ups, or, will the Price System continue to abuse these babies' brains as it has abused the brains of their parents and grandparents for generations? Eisenhower's 'grass roots' school crusade, passed as Public Law 530, calling for a White House Conference on Education is on.

Samuel Brownell, older brother of Herbert Brownell, and Commissioner of Education, has asked all state governors to co-operate. Three thousand delegates from the states and territories shall meet in Washington from November 28 to December 1, 'to evaluate the reports of the states and to plan recommendations for solving of the critical problems of education.' The findings will be submitted directly to Eisenhower.

Will the earlier community conferences, business ceremonies, the projects of national organizations and service clubs, make known in every nook on this Continent that Abundance and Security is only possible through the technological precision control of a balanced load system of production and distribution? Will they make known that the complexion of our industrial state has already changed from 'grass roots' to AUTOMATION? And that from this SOCIAL CHANGE, many economic, technical, and social problems grade the Price System as being absolutely incapable of offering satisfactory solutions? Will these delegates come out directly and admit that human organs of observation, decision, and effort have been replaced by mechanical, hydraulic, pneumatic, electrical, and electronic devices? Will the delegates ask the question: 'Where is this irreversible Social Change leading us?' To engrave this question more thoroughly in the consciousness of all delegates, will such Committeemen as Neil H. McElroy, President of Proctor and Gamble; Dr. James R. Killian, President of M.I.T.; John Cowles, President of the Minneapolis Star and Tribune; Mrs. Douglas Horton, Past President of Wellesley College; Albert J. Hayes, President of International Association of Machinists; and Msgr. William E. McManus, Assistant Director of the National Catholic Welfare Conference; or others as equally 'passed' committeemen; report on the display of Automatic control systems, Automatic machine tools, Automatic computers, Automatic inspection devices, Automatic work-positioning mechanisms, Automatic motor controllers, Automatic communication systems, and other Automatic designs, held by The First International Automation Exposition, at the 244th Regiment Armory, in New York City, last November 29 through December 2. Is THIS conference to celebrate the first anniversary of THAT AUTOMATION EXHIBIT? Or to counter it?

For which way of life is the White House Conference on Education being held—the political, as part of the 1956 election maneuvers and as an added approach to moralistic reform for the preservation of the social values of the Price System, or, the statesmanship way, as real preparation for the functional administration of the means whereby we live, operating through the technological control of a balanced load system of production and distribution? For after all shall be said and done at this Conference, the facts remain that we have two criteria by which to judge its effectiveness: To what extent will the White House Conference on Education channel human affairs on this Continent to conform with the technological operation of all the energy-consuming devices on this Continent; and, to what extent will this scope of internal integration be reflected in our foreign policy?

Very pointedly: which will be sacrificed—education or business? Technocrats are concerned over the progress of beneficial technological education, not politics, isms, business, or mock sincerity masquerading in the guise of divine 'grass roots' intuition.

Exhibit A, quoted from 'Better Schools—A Clearinghouse for 1955's Education Conferences,' (June 30, 1955 issues) may be indicative of whether education or the status quo will be sacrificed:

'American business and industry are lending a strong hand in the building of better schools . . . Corporations like General Electric and General Mills . . . are being joined by business groups which see in community conferences an opportunity for citizen action for the schools . . . The National Education Association, the American Legion, the U. S. Office of Education and National Congress of Parents and Teachers are sponsors of AEW (American Education Week—Nov. 6-12) and are sparking town meetings as a climax to regular AEW activities . . . From service, patriotic, fraternal, farm, labor, business, educational, religious, women's, and laymen's organizations come reports on how national headquarters are working to stimulate members to participate in community-wide conferences on education.'

The White House Conference is scheduled to be held two weeks later.

Whichever talented teacher, competent engineer, experienced scientist, useful technologist, acquired his genuinely social amplitude through Price System political ballyhoo? Price System stimulated community-wide conferences? Congressional and White House blessings?

Protect the Investment

The POWER AGE with its mechanics of AUTOMATION is projecting and will continue to project the TECHNOLOGICAL PATTERN of this Continent, regardless of all the deceptive, impractical, talks and plans which could originate as a consequence of the political propaganda being foisted upon us in the guise of 'Schools—Your Investment in America.'

Of course, schools are one of our glorious investments in America, but our school system as an organ of the Price System, finds itself suffering from the same bankruptcy as the Price System. Peculiarly, a Senate-House group, as recently reported, can vote to give away $17,769,000 to Pan American Airways; Congress can give billions upon billions in foreign aid; and in accordance with Public Law 530, provide but $700,000 (not millions) to be distributed to the state for school purposes on a population basis. Admitted that an additional $200,000 in federal money was specifically designated for the White House Conference. How magnanimous we are to our youth!

Ask any competent educator for the definition of 'education.' He shall tell you that Education is primarily the interweaving of resources, perception, experience, skill, and communication, in the process of adjusting oneself to the reality of the physical environment. And he shall also tell you that the school system's function is TO CONVEY THE HYGIENE OF ADEQUATE, INTELLIGENT, INDIVIDUAL AND SOCIAL BEHAVIOR.

Exhibit B, is also a quote. Dr. Francis Keppel, dean of the Harvard University Graduate School of Education, explained before the New Hampshire State Conference on Education in June: 'As long as we have a confusion of aims both for the individual's life on earth and for society as a whole, we can expect our schools to be the subject of public criticism.' We agree that too often our schools have been the catch-alls for private enterprise. And teachers who have to eat, support families, stand by in helplessness and disgust, afraid of dismissal!

Schools in a Technate

Within THE TECHNATE OF NORTH AMERICA—THE TECHNOLOGICAL PROJECTION OF AUTOMATIC GOVERNMENT—our schools, colleges, universities, would be the conveyors of the hygiene of adequate, intelligent behavior as a primary requisite. They would serve as polarizers for our well being in our environment of abundance, because Part I of their function would be to adjust the individual student to the imperatives of the AUTOMATION environment. Part II of their function would be the pursuit of research into whatever channels would further contribute to social well being. Every American has as his right of citizenship (the South included) the right to expect such an efficient measure of education as THE TECHNATE will thus provide.

The White House Conference is under the jurisdiction of The United States Office of Education of the Department of Health, Education and Welfare. Will the Conference focus on this right of citizenship? Do anything about the inter-related problems —for instance, the dumping of garbage and industrial wastes into our streams? Will it take into consideration the per capita needs of the 225 millions of people on this Continent, in metals, fuels, housing, agricultural products, recreational projects, etc.? Will the therapeutic outcome be zero, just another political gesture recorded, another White House headache unrelieved, or, real progress?

Since the stated major focus will be on these areas: (1) teacher shortages, (2) building shortages, (3) financial shortages, and (4) state and local organization, we are quite certain that UNLESS some courageous school director or teacher acts within the definition of STATESMANSHIP and presents the big, overall definition of EDUCATION—primarily the interweaving of resources, perception, experience, skill, and communication, in the process of adjusting oneself and the Continent-at-large to the reality of our physical environment, the therapeutic effect will be nil.

Among the 3000 delegates is there one who has what-it-takes to stand up and say: The pressure of 'force majeur' is causing the people of this Continent to look about for the leadership to prevent them from precipitating into social chaos and destruction? Will he (or she) have the courage to say: Where they now pay little attention to us, they WILL turn to TECHNOCRACY INC., because TECHNOCRACY INC. is the only educational organization which is taking full cognizance of the physical stature of this civilization, and TECHNOCRACY INC. is the only organization which has the blueprint for the new social order of AUTOMATION, drawn from its imperatives and with the necessary physical specifications? Such an EDUCATOR would be fit for the task ahead. Will he come from a New York high school, a midwest land grant college, or will he be just an intelligent citizen from whatever state?

Recall our mention of the AUTOMATION EXHIBIT last year! When did the idea of extending human perception by devices outside the human brain begin?

Real Problem Solving

During the 17th century, Gallileo, Kepler and their few intimates, by producing the first telescopes, also produced as a censequence, the beginning of a revolution in methods of attacking problems. Only since the invention of the telescope, a minute fraction of one per cent of the estimated 1,850,000,000 years of the world's existence, has there developed the stabilizing influence of acuity—the use of the most distinct and direct approach to solve a problem. Astronomy and the telescope, mathematics and mechanics, lately physics and AUTOMATION, and all other branches of physical science, are independent of the so-called 'grass roots' understanding. Real problem solving in education can only be accomplished through a complete knowledge of our physical environment, including the appropriate design for configuration, the appropriate plan of action, and the appropriate technology to consolidate all elements into operational procedure.

No organization outside TECHNOCRACY INC. has definitely recognized the SOCIAL CHANGE which science and technology have brought us. No organization outside TECHNOCRACY INC. has attempted to perceive North America as a complete technologically functional operating unti. No organization outside TECHNOCRACY INC. has tried to communicate the workable social synthesis which the verifiable facts indicate as the solution to our problems of the POWER AGE.

Here, it is necessary that we interject the definition of STATESMANSHIP, as publicly presented in 1935 by Howard Scott, Director-in-Chief in Technocracy Inc. His definition involves much which the Price System deliberately hushes. Our precis of his definition stresses that real statemanship within our state of technology must exercise the knowledge of precision control as the regulator in the distribution of equivalent mass purchasing power to balance our abundant production.

Howard Scott Speaks

Mr. Scott wrote and spoke:

'The foremost specification in the STATESMANSHIP of the New America is a knowledge of precision control of all energy-consuming devices. Under the hazardous interference ptolitical control of this Price System, technology—drafted into service by the System for the further reduction of physical costs —has developed a methodology (balanced load operated by precision control) which is the most sensitive and accurate ever devised by man. It is in use today in every high-tension transmission system, continuous straight-line production system.

'It is the only system that can be extended to give a balanced-load control of all Continental operations. It is the only system that has as its inherent, impersonal objective the satisfaction of the wants of man. It cannot be operated by morons, nor by undisciplined, unorganized mob, nor by sincere self-seekers wishing to do someone else good for their own betterment.

'The balanced load system of continental control cannot be bribed or gypped, and personal favoritism doesn't count in its operation: being somebody's son or brother-in-law won't get you anywhere. Personal influence under this system will be of no more use except as an amusing pastime. The success of the individual under such a Continental system will not be gauged by his bank account, his bonds, or the pleasing personality of his Arrow-collar appearance, or his nicety in rendering Emily Post amenities. The success of the individual will be determined solely by his capacity for competent functioning in phase with the balanced-load operation.

'The citizens of this Continent, under such a system will have no debt claims against other human beings. They will not be able to mortgage their fellow men and their unborn children. The citizens of the New America will have no fear of taxes or unemployment because neither will exist. They will have no need for insurance policies and annuities. It will be socially cheaper to guarantee security to all from birth to death.

Toil and Poverty vs. Abundance

'Greater purchasing power will be provided all adult citizens than any civilization has ever known. Toil and poverty will not exist, due to the greater and more efficient use of machine power, resulting in a greater volume of goods and services scientifically distributed to everyone.

'The statesmanship of the New America calls for a governance to be instituted among men for the primary purpose of planning and directing the technological development of this Continent so that the potential abundance of America shall be created for and distributed to all.

'This Continent can have this New America whenever we Americans set about to do the job.'

Please notice that the above definition is necessarily in the form of technological specifications, not in the form of wish-fulfillment rhetoric.

On the chance that at the White House Conference no 'educator' should rise to qualify for the statesmanship necessary to help install THE TECHNATE, we state that such void would not, could not, invalidate our physical environment, nor hinder the efforts of competent teachers within or without the American school system, nor deter the efforts of TECHNOCRACY INC. in its unity of intelligent North Americans, as the foremost Social Education and Research Organization in existence. In TECHNOCRACY INC. there are no kibitzers from anywhere off this Continent. Neither does TECHNOCRACY INC. tolerate the imposition of any type of commercial advantage, financial allegiance, or ecclesiastical direction. TECHNOCRACY INC. is committed only to the dictates of energy conversion as this impersonal physical reality affects the well being of every North American.

To all of you Conference Delegates: 'Technocracy' suggests that you look carefully at the physical entity of the North American Continent, know it—its minerals, lands, forests, power potential, waterways, precipitation, climate, and racial and linguistic characteristics of our people, our rate of population increase, our technological apparatus for production, our facilities for transportation and distribution, our trained operating personnel—perhaps then you will understand WHY there must be a balanced-load in energy conversion, must be an integrated social mechanism.

The real job ahead of you is not the planning of a coup d'etat to place certain Price System men or women in key positions so that they may encourage the flotation of bonds, the erection of certain kinds of Price System buildings, or act as the driving force for political action of whatever stripe. As to the other area on your agenda, we admit there is a teacher shortage within present methods of Price System operation.

Whether or not you recognize it, your problem is the matter of making the transition from a set of obsolete and outworn social and political institutions to a New America with the new precision control techniques which will be in conformity with our new environment of AUTOMATION. Think for awhile! AUTOMATION has already dislodged the authority of political concepts!

Technology Decrees

What are some of the MUSTS being compelled by technology? Here are only a few: The Education Sequence MUST provide facilities for accommodating not only the youth, but the entire population to a reconditioning away from tradition and toward the realities of the here, now, and the future. To do this the Education Sequence MUST provide competent analyzers and synthesizers. The Education Sequence MUST adopt new techniques of extended perception by which to convey scientific technological knowledge of a magnitude never before thought of. The Education Sequence MUST consider public health as the pivot for the operation of All Social and Industrial Sequences. This in turn obligates education so that it MUST become nutrition conscious and thereby further involves agriculture, horticulture and animal husbandry. The field of education in industrial relations involves far too many MUSTS to begin to list them here.

Further, the requirements following from performance specifications for education, indicate the necessity of synchronization and coordination of all parts of the social mechanism if the whole complex is to be maintained in a state of smooth and orderly operation, rather than the kind we now have characterized by local antagonisms with inter-community repercussions; high profit margins and poor end products; shifting discount rates to insure the progressive control by financiers; planned deflation and increasing unemployment with accompanying lack of purchasing power.

Since human labor is a diminishing quantity in the presence of AUTOMATION, and since smooth operation of the entire social mechanism can only be maintained provided that the products of industry are distributed for consumption at the rate they are produced, the entire curriculum of Education MUST be readjusted. In fact, ALL Social and Industrial Sequences MUST be coordinated in a technological Continental Control.

There should be nothing mysterious in this ultimate control mechanism for THE TECHNATE OF NORTH AMERICA. The fundamental blueprint was made known through Technocracy literature long before, and during World War II, and since has been repeated many times. It is available for scrutiny at any of the local Technocracy Section Headquarters or from Technocracy Organizers. It is part of the subject matter in the Technocracy Study Course Outline—far above 'tips and detailed instructions for school-community relations.' Regular Study Class participation helps Technocrats to understand. An individual's own intelligence measures his degree of comprehension of the over all design.

So that you shall not be misled, we point out that technical detailed specifications for each operation are not included. A carpenter is not bothered with the details of an appendectomy, nor a dentist with a problem in electronics.

How antique does the White House Conference, as the result of the many planned community conferences, want to become? Will its 3000 delegates continue to be 'grass roots' Price System yes-men, or will they take advantage of the time and conditions to become real educators? Will they try to make progress toward installing THE TECHNATE OF NORTH AMERICA and thereby solve both our internal and foreign problems at one stroke? Will they rise to STATESMANSHIP?

The publicity for the White House Conference attracted our attention as it was designed to do. For we Technocrats have cuddly boys and girls awaiting an education, too. But we haven't swallowed the Price System program. Instead we are measuring the intelligence, courage, and statesmanship qualifications of Eisenhower's 'education' representation—3000 strong.

We are also measuring WHAT the Congress' 'munificent' gift of $700,000 to the states, plus $200,000 especially for the White House Conference, can or will do to actually help the many sincere teachers in the North American school system to educate the public.

—M. M. Fertig

FLOOD

(Continued from Page 16)

floating debris which moved at high speed, including such large items as whole trees, parts of buildings, large timbers, and metal tanks. There were a number of disastrous fires, because the fire-fighting equipment could not get to them—on account of too much water. Frozen goods could not be saved; the food in refrigerators and freezers spoiled. It took days to restore power and telephone service.

An adequate engineering of the area would also demand that structures and other features be prepared to withstand wind velocities in excess of 100 miles per hour. The Big Blow that swept over New Jersey and eastern Pennsylvania at Thanksgiving time in 1950, lasting for three days, with wind gusts over 75 mph and accompanied by heavy rains, caused many millions of dollars worth of damage to storm-insured property. In addition, the toll in uninsured property, destroyed trees, and other unassessed losses must have been even larger. Such a blow had not occurred for, perhaps, a hundred years and no provision had been made to withstand one of that magnitude. Only last year, hurricanes Carol, Edna, and Hazel had roared through the area with high velocity winds, in separate but parallel paths, causing grief and destruction far beyond any excuse for such.

We do not contend that all damage from 'the elements' can be prevented; but a very high percentage of it can. Since weather events are a present and intermittent danger, one would suppose that the social organization would concentrate on ways and means of dealing with them in a well-regulated manner. Certainly, this would be far more sensible than watching the skies for illusory enemy planes or fiddling around with high-cost conferences called to discuss the futility of calmly evacuating the populations of large cities to unprepared countrysides under postulated panic conditions.

Whatever are the natural physical dangers to this Continent, North Americans have the capacity to meet them and take them in stride, but they lack the strategy and social organization that is required —even for survival in time of disaster. The strategy

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Printed in U.S.A. by volunteer and union labor on Technocracy's own press.

TECHNOCRACY

North America's Only Social Dynamic

WHAT?

Technocracy is the only North American social movement with a North American program which has become widespread on this Continent. It has no affiliation with any other organization, group or association either in America or elsewhere. The basic unit of Technocracy is the chartered Section consisting of a minimum of 50 members and running up to several hundred. It is not a commercial organization or a political party; it has no financial subsidy or endowments and has no debts. Technocracy is supported entirely by the dues and donations of its own members. The widespread membership activities of Technocracy are performed voluntarily; no royalties, commissions or bonuses are paid, and only a small full-time staff receives subsistence allowances. The annual dues are $6.00 which are paid by the member to his local Section. Members wear the chromium and vermilion insignia of Technocracy—the Monad, an ancient generic symbol signifying balance.

WHEN?

Technocracy originated in the winter of 1918-19 when Howard Scott formed a group of scientists, engineers and economists that became known in 1920 as the Technical Alliance—a research organization. In 1933 it was incorporated under the laws of the State of New York as a non-profit, non-political, non-sectarian membership organization. In 1934 Howard Scott, Director-in-Chief, made his first Continental lecture tour which laid the foundation of the present Continent-wide membership organization. Since 1934 Technocracy has grown steadily without any spectacular spurts, revivals, collapses, or rebirths. This is in spite of the fact that the press has generally 'held the lid' on Technocracy, until early in 1942 when it made the tremendous 'discovery' 'that Technocracy had been reborn suddenly full-fledged with all its members, headquarters, etc., in full swing!

WHERE?

There are units and members of Technocracy in almost every province in Canada, and in addition there are members in Alaska, Hawaii, Panama, Puerto Rico and in numerous other places with the Armed Forces. Members of Technocracy are glad to travel many miles to discuss Technocracy's Program with any interested people and Continental Headquarters will be pleased to inform anyone of the nearest Technocracy unit.

WHO?

Technocracy was built in America by Americans. It is composed of American citizens of all walks of life. Technocracy's membership is a composite of all the occupations, economic levels, races and religions which make up this Continent. Membership is open only to American citizens. Aliens and politicians are not eligible. (By politicians is meant those holding elective office or active office in any political party.) Doctor, lawyer, storekeeper, farmer, mechanc, teacher, preacher or housewife—so long as you are a patriotic American—you are welcome in Technocracy.

and organization needed is one that's prepared to anticipate and prepare for the worst that is likely to happen long before it happens; so that, when the worst does happen, it will not wreak havoc, but be noted only as a passing event.

—Techno Critic

PREDICTION

(Continued from Page 9)

ment and business planners who look ahead for as much as 25 years or more. Consequently, when Technocracy predicted that this Continent could produce a standard of living for each and every inhabitant equivalent to that obtainable from an income of twenty thousand dollars in the year 1929, it was not sailing into the Wild Blue Yonder. However, since Technocracy is not limited by Price System concepts, it was able to go far beyond any other organization or group on the Continent in what it could 'promise' the people under a functional management.

Science, the method of determining the most probable, relies on a number of methods of prediction—none of them supernatural or mystical. It employs the statistical approach, trend studies, analogies, sampling, and probability. By the use of these methods of prediction, science has made far more progress than any other human institution seeking knowledge. Technocracy accepts and adopts the methods of science; and its analyses and syntheses of conditions on this Continent, past, present, and future, are based upon them. Technocracy shuns the methods that science rejects. Science knows that human error—accidental, incidental, or intentional—has furnished man with much if not most of the 'knowledge' he has relied on for guidance up-to-date; and this part must be rejected. Only that which has been checked with repeated observations under controlled conditions is fully acceptable to science.

Technocracy is science applied to the social field. When Technocracy makes a prediction about society, it is the most accurate prediction that can be made with the knowledge and means at hand. For those who seek some certainty and stability in their understanding of the social order as it pertains to North America, let them beware of the soothsayers of politics, economics, and mystical philosophy. Let them turn to the source that has an unrivaled record for accuracy—Technocracy. Or, if you prefer, we can speak in parables: Confucius say, if horse win race once, it may be an accident; if horse win race twice, it may be a coincidence; if horse win race three times, bet on horse.

—Wilton Ivie, CHQ

A REVOLUTION

(Continued from Page 11)

being processed and paid under a mechanized system. One machine turns out pay order checks at the rate of 100 a minute.

Who wants to work anyway? Let's face it. We have to find out how to live without it. A new America without toil awaits your decision. Make it count for America — the New America of security and abundance without toil.

—Ruth M. Berge, 12247-3

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The waste and inefficiency of the Price System demand a continual expansion in physical and financial operations to sustain an apparent equilibrium. The only alternative is war. With new lands to colonize and 'develop,' or an expanding industry to supply an unsaturated market, or an expanding debt, a condition of economic prosperity can be achieved for a time. But the day soon comes when the competition for resources or markets or else a distressed internal economy leads to war. Peace is not a corollary of the Price System but a morbid infliction upon it. Politics, business, and war are natural bedfellows; function, abundance, and peace are their antitheses.

THE NORTHWEST

Technocrat

JAN. '56

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- Economic Imbalance
- Operation Chief Joseph Dam

No. 182 (Vol. XX)

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Sec. 3, R. D. 12247
TECHNOCRACY INC.
Seattle, Washington

A New Word And A New Concept

IT IS becoming the order of the day in the Price System press to make frequent and often extensive references to automation, the industrial process wherein production lines are controlled by electronic devices instead of human workmen.

The only thing new about automation is the label. It is a refinement of technology, and a natural outgrowth of a long period of technological development which really began with man's first use of extraneous energy in the form of fire. But its spectacular impact upon industry, even at an early stage, is making a point for Technocracy in the public consciousness. Automation removes any question as to whether or not technology makes work for the people of this Continent. It doesn't, period.

It is amusing to Technocracy to observe the verbal gymnastics of such prominent and reactionary Price System propaganda organs as Business Week and Newsweek attempting to explain the decisive effects of automation as it brings about a wholesale elimination of man-hours in a concentrated fashion. Yesterday, perhaps hundreds of individuals had jobs in a production system. Today, maybe none but a handful of maintenance technicians work in the system. There is no replacement of a few workers at a time. It is large scale displacement, and final.

With increasing frequency, the press is referring to Technocracy in connection with discussions of automation. Of course, it is necessary for the press to admit that automation doesn't make jobs where it is used because this is much too obvious. And, it is admitted, there is a problem of 'transfer of skills' to some other job somewhere. But there is one thing for sure: Technocracy still is as 'wrong' as ever, according to press comment, when it asserts that technology is eliminating human toil, and consequently the livelihood of multitudes of people under the Price System, while it portends the end of the Price System and the beginning of an age of abundance.

The Press has tried its level best to squelch Technocracy by various means. Its professional liars attempted to discredit Technocracy by attacking its assertions. A storm of abuse and ridicule failed to kill public interest in Technocracy. Finally, the press conspired to kill Technocracy by silence. This, too, has failed. To make matters worse for the press, along comes automation which forces a widespread public interest in the very issues Technocracy first presented to the people of North America twenty years ago.

So again the press is attempting to discredit Technocracy, undoubtedly fearing and trying to head off a revival of mass interest in this social movement.

The Price System and its representatives have had their day in North America. Let's see how funny the jokers of journalism can be from now on. We'll give you one guess as to who is going to have the last laugh.

—Editorial Board

COVER PICTURE

PENSTOCK

This shows the relative size of the huge penstocks which feed the turbines at Chief Joseph Dam in Northeastern Washington. Four generators are installed and operating at this time with 12 more planned for the initial installment. Ultimately there will be a total of 27 generators with a rated capacity of 64,000 kilowatts each. This will make Chief Joseph Dam second to Grand Coulee Dam in rated capacity. (For more about the dam and Technocracy's visit there see page 23.) Photos courtesy of H. W. Shaw.

JANUARY 1956

THE NORTHWEST
Technocrat

FOR HEALTH AND LONG LIFE

The health facilities of the Continent are pitifully inadequate for administering to the health needs of the entire population. There are not enough hospitals, not enough sanatoriums, not enough doctors, dentists, and nurses. There are not enough of these things even for treating the people who are sick and think they are sick; and practically no provision is made for taking care of people who are apparently well. Yet a great deal of resistance is generated against any proposal for increasing the facilities and improving the service.

IMAGINE, for the sake of discussion, that you are a North American citizen approaching middle age, with a reasonably steady job and average economic means, and you are beginning to realize that certain aspects of your health and vigor are slipping. You know from a casual perusal of the vital statistics tables that you should have many good years of life ahead of you; yet, the obituary columns of the daily newspapers are generously sprinkled with examples of people not much older than yourself who are succumbing to various ailments that might afflict anyone—ailments that could happen to you. Then, you begin to worry about your general health, about occasional spells of short breath or palpitations of the heart, or abdominal pains or constipation, and you resolve to have a medical checkup soon. Should some symptom appear in a more severe form than usual, you get panicky and fearful of iminent death. You finally give in and go see a doctor.

The doctor probably gives you a cursory examination, checking your blood pressure, listening to your heart, thumping your chest, asking you a number of questions, and having you leave samples of urine and blood for further analysis. Later, you return for the verdict, and the doctor advises you to take a month or two off from your usual routine, go to Florida, or Arizona, or California, get away from your job, your associates, and your worries, and enjoy a complete rest. Then, he gives you a few prescriptions to have filled and mails you his bill for services rendered. But, how can you take time off from your job? How can you relax on a Florida beach? How can you leave your worries behind, especially if they are in the form of monthly bills that must be paid or else? The doctor knows that you are suffering primarily from the strains of modern life and that most of your 'symptoms' would go away if those strains could be relieved. His prescription may be essentially sensible, and his bill for services may be well within the range of professional ethics. But, why should he take upon himself the burden of solving your personal problems? His personal problems are probably such that he would have trouble taking a similar rest cure himself.

The doctor is usually only too delighted if you manifest some definite symptom he can treat; although, if he is a skilled analyst, he may know that your symptom is only a secondary manifestation of some more basic ailment. But, it gives him something tangible to work on, and he can vary the treatment according to your ability to pay; and, who knows, maybe it will take your mind off the real trouble long enough for you to show some improvement.

Unfortunately, most of our medical doctors are trained mainly in the art of diagnosing and treating symptoms rather than in the science of keeping people well and healthy. If you feel well and healthy and have no pathological symptoms that your are aware of, there is little for you to gain from a visit to the doctor's office. Should you go there for a checkup, the chances are you would be given the bum's rush, pronto. Yet, that is

The Northwest Technocrat is published quarterly by Section 3, R D 12247, Technocracy Inc , 2208 Eighth Avenue, Seattle 1, Washington Entered as second class matter July 11, 1949, at the Post Office of Seattle, Washington, under the act of March 3, 1879. Subscription rate is $1.00 for four issues. Single copy 25 cents Continental Headquarters of Technocracy Inc are located at Rushland, Pennsylvania Entire contents copyrighted 1956 by Section 3, R. D. 12247, Technocracy Inc

the very time when your biological mechanism should be given the most careful attention. That is the time when a careful examination will establish the conditions in your body which can be considered 'normal' for you. It would provide a control, against which later variations can be compared. Also it may reveal incipient symptoms that are not yet ready for overt expression, hence are free from psychosomatic complications. But it is the rare doctor, indeed, who is trained to examine and treat a well person—to keep one from getting sick rather than administrating to one after he is sick.

Likewise, it is the rare person who will visit a doctor professionally if he feels reasonably well. One is inhibited by the expense; or he doesn't want to be bothered with it; or he realizes that doctors are not in the business of treating well people. In contrast to this usual pattern, is the person with hypochondriac tendencies, usually a woman, who imagines herself afflicted with all kinds of ills which the doctor is unable to verify, and who continues to insist on treatment, perhaps for no other reason than it provides her with a means of escapism from an unpleasant situation at home or a means of obtaining intimate personal attention which she is unable to get otherwise. If she happens to have economic means, the doctor may add her to his 'stable' of permanent patients—a form of insurance against economic vicissitudes.

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Printed in U.S.A. by volunteer and union
labor on Technocracy's own press.

The vital statistics tables reveal that a successful fight is being waged against the more vicious of the external causes of death, with the exception of accidents (which are not, in their primary aspect, entirely a medical problem.) Those ailments which achieve notoriety as the great man-killers, today, are those associated with internal biological disintegration and malfunction, due mainly to hereditary defectiveness or to organic debility incidental to old age. How long a person might be expected to live if he were of superior heredity and were maintained in an organically sound condition throughout life has not been established yet. There is substantial evidence that some individuals are capable of being kept alive and active for as much as 140 years; but most people are in trouble at half that age, and some even sooner. To achieve a race of people with a normal life expectancy of more than 100 years would appear to require either rigorous selective breeding or the discovery of some artificial means of retarding the effects of advancing age.

Health Via Your Pocketbook

One of the main reasons you withhold visiting the doctor's office as long as possible, even though you feel that something should be checked up on, is your dread of encountering an unmanageable medical bill. Rather than take this step, you may pay more attention to those innumerable ads appearing on the radio, in the newspapers and magazines, and so cutely dramatized on television, which offer you all kinds of relief if only you will go down to the corner drugstore and purchase whichever 'miraculous remedy' the sponsor happens to be trying to merchandise. Or you may start telling your troubles to whomever you can get to listen to them; in which case, you will receive all kinds of advise regarding sure-fire remedies for just the very thing that is ailing you, because your listener knows someone who had a relative with that same ailment who was cured almost overnight by adding (or eliminating) some food or medicine in the daily routine of living or practicing some mumbo-jumbo. These 'sure cures' are almost as numerous as your advisers and are often in direct contradiction to each other. The chief advantage is that they are offered to you free of cost.

In the case of drugstore remedies, whose sales are promoted by million-dollar ballyhoo campaigns, the worst they can do is kill you, but much more probably they will leave you feeling no worse than you were before, for it is profitable to keep you returning for repeat orders. And they may even be instrumental in moving your bowels, relieving your headache, or mollifying some other minor symptom. In any event, they will reduce the amount of loose change in your pocket, which is the main objective of their producers.

In the case of free advice from your acquaintances, almost anything can happen to you if that advice is followed, from starvation to flatulence, from temporary euphoria to colic. However, in this case, as in the case of drugstore remedies, the chances for survival are usually pretty good; the chances for a cure, on the other hand are highly dubious. Eventually you find yourself back where you were before, only your ailment is probably in a more advanced stage. It is then that you decide to see a medical doctor or call on some other health consultant-practitioner.

If your ailment is rather vague, such as a general feeling of weakness and declining vitality, occasional pains in the abdomen or chest, periods of rapid heart beat and cold sweats, or sick headaches and nausea, you will be very lucky if you get an accurate diagnosis from one or a few visits to your doctor's office. Such symptoms could mean any one or a combination of many things, possibly nothing more serious than an individual sensitivity to some particular food or environmental factor. If you have several hundred or a few thousand dollars to spend, and if you can devote the time, and if you can acquire the facilities of a large hospital and the services of a staff of competent doctors, technicians, and psychiatrists, you may be able to find out what is wrong with you; but, even then, you may not. If you don't have the money, you will probably live nearly as long (perhaps longer) if you merely stay home, learn to relax a little, and treat your symptoms with aspirins, mild alkalizers, and mild laxatives, and let nature take its course.

For the person of middle age without adequate financial reserves, the health services of the country are in a sorry state. If sick or debilitated, you become a social pariah. If you cannot find relatives who are able to take you in and willing to put up with your demands and idiosyncracies, you may land in a crowded 'charity ward' of some second-rate hospital, to be pitifully neglected and insulated by the inadequate and unsympathetic staff, or you are shunted off into some poor house, euphemistically referred to as a 'retirement home' or 'rest home,' where for the sake of your meager social security, other pension income, or relief allowance, you are provided with the minimum of care, comfort, and sympathy for the rest of your hopeless days. You become an 'old crock' in a den of live corpses.

Hospital Nerves

If you are really sick and are able to go to a modern hospital where you are placed in a private room, with a special nurse, and receive special medication, you must be prepared to pay upwards of fifty dollars a day just for the hospital expenses, and this does not include operating room, anesthesia, or blood transfusions, and the doctor's fees are separate. Even if you do carry hospital insurance, there are enough extras on the bill, not allowed by the insurance policy, to make sickness an expensive affair. Gone are the days, prior to World War II, when many hospitals were soliciting patronage as rest homes for tired businessmen and others who could use a week or more of rest away from the worries and routines of daily strife—at three to five dollars a day, including meals and nursing care.

The average life expectancy in the United States is now 68 years, which indicates that the health services and living conditions of this country are a decided improvement over those in most parts of the world. For most of the people in the world, severe sickness is attended only by a voodoo medicine man or a midwife. The only modern medical care available at all may be located several hundred miles away in some makeshift hospital, supervised by one or two doctors, aided by a few assistants. Therefore, in spite of its high cost and other limitations, the health service in the United States, Canada, and some other nations is vastly superior to that available to most of the world's people. The know-how and the facilities (actual and potential) are here. It is the administrative technique of applying that knowledge and those facilities to the health problem of the Continent that is faulty.

The health service of this Continent could be vastly expanded and advanced beyond where it is today. The limitations, inadequacies, and chicanery are mostly traceable to the Price System, rather then to mischievous quirks in human nature. Under the Price System, medical doctors tend to be businessmen first and health practitioners second. Hospitals tend to be business institutions first and health centers second. If you are in doubt about this, you may check it by calling a few doctors and telling them that you are badly in need of medical treatment but that you have no money. Or try getting admitted to a hospital—no matter how serious your condition—without first establishing proof of your ability to pay; and this includes hospitals operated by alleged humanitarian religious organizations. You might just as well go to a drugstore and try getting a much needed prescription filled without handing over the currency. Health care on this Continent is a big business, a lucrative business, one that is jealously guarded by an elite personnel.

Why Not More Doctors?

The medical profession has waged a steady and highly successful campaign to restrict the number of trained doctors in this country. Should you perchance become trained outside of the usual channels, you may land in jail if you try to use that training; for, the proper credentials are far more essential to the medical profession than competence. The argument that proper accreditation is necessary to maintain high standards might be acceptable if that were the only reason for it; but it turns out that the greater emphasis is placed upon the maintenance of a 'closed shop.' Hence, the sin of practicing medicine without a license is frequently adjudged a greater sin than incompetence. Medical schools place severe restrictions on the students whom they will accept for training; and among the students who are most rigorously weeded out are those who fail to display an upper class attitude. The medical doctor must realize that he is an elite member of the society, entitled to a more pretentious standard of living than the average, and entitled admittance into the best social circles. After all, is it not fitting that one who critically examines the private anatomy of the 'best people' should rank socially above the mechanic who merely administers to the ailments of their Cadillacs? To maintain an elite status and high income for its members, the medical profession must maintain a scarcity of members.

In spite of the rigorous and vigilant precautions observed, there are a number of graduated and

MY TWO CENTS WORTH

Last year I was so disgusted with all the fuss about Christmas that I made a New Years resolution not to buy any presents this year. I guess it's because I was worrying about all the bills I piled up from buying presents for everyone. Besides, I found out some of the people I gave the presents to went out and exchanged most of them for something else, which makes you feel kind of discouraged after worrying so much about what things to buy and then going to all the trouble of hunting for them.

But they started decorating the stores for Christmas so early this year I broke down and bought a few presents. Then, after I bought presents for some of my friends and relatives, I had to buy something for all of them, because they would be offended if I missed them. Now, I wish I had stuck to my resolution and not bought anything for anybody and stayed out of debt. Everybody thinks I am kinda queer anyway, so one more thing shouldn't make much difference. Besides, if I didn't give them any presents, they wouldn't have to give me any, and I think they would like that, because most of them can't afford to give presents any more than I can. I don't know what to do with most of the presents I got this year. I can use some of them, but not most of them. I guess I will try to exchange them or give them away for wedding presents and things like that. I wish I was brave enough just to send a greeting card to my friends and wish them all well and write on it 'No Presents, Please.'

I think it would be much better if everybody just spent their money to buy a nice present for themselves instead of buying a lot of knick-knacks for other people. Then everybody would be satisfied with what they got. Of course, Christmas is all right for the kids if you don't overdo it like most people do nowdays. When I was little, all I got for Christmas one year was a doll and a chest made out of an apple box and a stocking full of candy, nuts, and oranges, and I thought that was wonderful. But now, if you don't spend a hundred dollars on a kid for Christmas, you don't dare look the neighbors in the face. So I guess that is why we all get taken by this Christmas business—we do our darndest to keep up with the neighbors who knock themselves out for the same reason.

—Ima Moron

licensed doctors who still place more emphasis on professional service than on monetary income. They usually end up in rural communities or the slum areas of the cities. We do not mean to imply that the American doctor is an unscruplous mercenary; rather, we insist, he is only behaving as a typical American under the Price System. He is fully as ethical in his practice as is the plumber or television repairman, and usually much more polite; and his fees seldom exceed the list price. As a matter of self-interest (economically), the doctor will fight bitterly any social tendency to provide better medical care for the public at less cost, in the same way that the plumbers, bricklayers, bus drivers, and laundrymen will fight against lower charges for their respective services. The fault does not lie with the individual members of the profession or with them as a group so much as it lies with the system which fosters and promotes such economic and political corruption.

The health facilities of the Continent are pitifully inadequate for administering to the health needs of the entire population. There are not enough hospitals, not enough sanatariums, not enough doctors, dentists, and nurses. There are not enough of these things even for treating the people who are sick and who think they are sick; and practically no provision is made for taking care of people who are apparently well. Yet a great deal of resistance is generated against any proposal for increasing the facilities and improving the service. This resistance comes from the Price Systems motivations which place incentive ahead of social welfare. And there appears to be no way of materially remedying this situation under the Price System as it is practiced on the North American Continent.

Price System Health Program

During the recent regime of the Labor Party in Britain, an attempt was made to provide free medical care for all citizens through legislative enactment, and this proved to be highly popular among British subjects. But the Labor Party was squeamish about taking a firm stand in support of the program and medical service started slipping back into the old 'cost-plus' status. The present Conservative Party regime strongly opposes 'socialized medicine' but dares not go all the way in undoing a program which proved so popular among the voters. Soviet Russia appears to be doing a much more successful job of administering a socialized health program, although its scope is probably seriously limited by the factor of national cost which must be taken into account by all Price System governments. However, in so far as the individual citizen is concerned, the medical care received by him in Russia is without cost to him. On this Continent, the only socialization of medical care permitted is, first, that subscribed to by individuals and families through payment of premiums to insurance companies; second, a limited amount of charity welfare treatment; and third, health benefits allowed war veterans and members of certain Labor organizations. All of these 'socialized' services are inadequate in their coverage and are limited in their function. The medical doctors naturally resent 'socialized medicine,' since the manipulation of the financial factors would tend to slip away from them and into the hands of politicians. Socialized medicine might mean that more people would be able to receive medical care when they needed it, but it would also mean that the elite status of the doctors would suffer some curtailment, at least in the more successful categories. As we have already pointed out, Medicine is a business enterprise first and a social service second.

In a functionally competent society, the health of the people would be a primary consideration. Every effort would be made to keep the people well and healthy and to provide them with the best available treatment in case of injury or sickness. Further, a major research program would be maintained for uncovering the causes of human ailments and improving the techniques for preventing and treating them. In this respect, as in all others, the society of this Continent under the Price System is far from being functionally competent.

Along with its concern for other functional aspects of society on this Continent, Technocracy is very much interested in the health and physical condition of the human inhabitants. One of the major Service Sequences in Technocracy's design for North America is the Health Sequence. This Sequence embraces all aspects of the problem of maintaining health and the physical well-being of all the people. It includes all phases now involved in legitimate medicine, dentistry, chiropracty, naturopathy, faith healing (Christian Science, etc.), psychiatry, and dietetics; as well as all hospitals, clinics, offices, drugstores, and other establishments connected with the health problem, and it would include all the attendent personnel. The reorganization would have to be drastic; for, the whole Health Sequence would be integrated under one control, and it would be given complete charge of, and full responsibility for, the health of all citizens from birth to death.

A complete medical record would be kept for each individual; and this would show the changes in his or her physical status throughout life. An abstract of one's hereditary background, attached to this record, would furnish clues to potential trouble spots ahead. Thorough physical and phychological examinations, conducted twice a year, would reveal any changes that might be due to incipient ailments. Early and prompt treatment would be administered wherever any signs of trouble are found. The health records would also serve as a valuable aid in the Research Sequence, assisting it to determine the cause and course of various physiological deviations.

Adequate Health Facilities

The health facilities and the personnel must be expanded to examine and otherwise treat the entire population twice each year. Thus, the health center of a large city would have to be prepared to receive several thousand persons a day, every day, with reserve capacity in case of a major emergency. The examinations would be very thorough and would be designed to detect psychological abnormalities as well as somatic deviations. Most of the examination and collating of data could be performed by skilled technicians with the aid of specialized equipment, so that the most highly and broadly trained experts could devote their attention to diagnosis, prognosis, and other aspects that require comprehensive knowledge and superior judgment.

Among the personnel of the Health Sequence would be those whose function is to 'understand' your personal problems, someone to be your sympathetic and confidential consultant and adviser with respect to matters affecting your body and mind—a sort of personal liaison with the Health Sequence, which might otherwise seem too 'impersonal and coldly efficient' to you.

Since all health care in the Technate would be administered without personal cost to the individuals, there would be no occasion to avoid or delay health service. Health service would be provided as a general function of the Technate, chargeable to the whole society rather than to the individuals as they receive attention. Further, there would be no incentives for arriving at diagnosis and prescribing treatments that are slanted to sell certain services or medications. There would be no occasion, for example, to prescribe spectacles for a child who does not need them, nor to advise gold crowns or bridges for one's teeth when it is known that they will be more harmful than beneficial, nor to prescribe certain drugs that are not required or useful, nor to rush one to the hospital for an unnecessary operation. The competency of the Health Sequence and its personnel will be determined by the degree of health that is maintained in the population.

It does not take much imagination to visualize a much healthier population in the Technate than that which now exists on this Continent. There will be more general vitality and much less sickness, both bodily and mental. Most of the external hazards to health will be eliminated, such as: long hours of toil, non-congenial and unhealthful working conditions, contagious diseases, malnutrition, quackery and commercialism in the field of health, financial worries, economic frustrations, and dependent relatives. On the positive side will be adequate time for recreation and pleasing avocations, high quality food, compulsory health examinations, competent treatment in the case of ailments, healthful living conditions, early retirement from service to the society, and unlimited opportunities for developing positive interests in life.

Continued research in all lines will advance the knowledge of how the human body operates and enable us to find out what causes things to go wrong and how to counteract those causes. In the Technate, scientific research will not be limited, as it is today, by reluctant and miserly appropriations for that purpose, allocated to certain hospitals, universities, and corporations and usually administered by businessmen and politicians. Neither will it be handicapped by the present tendency of luring superior men and women away from research with the higher monetary incentives offered by careers in business, advertising, insurance, politics, promotion, and mass entertainment. With the routine work of the Continent being handled mostly by automatic machines, there will be plenty of personnel available to man those functions which require direct human application, such as the Health Sequence and Research.

The functional people in the Health Sequence will be called upon to devote only a limited amount of their time to this function to fulfill their social contract with the society. They will not be subjected to the strain of long hours and forced work that now prevails among doctors, dentists, and nurses. Nor will there be a social caste system among the personnel, based upon differences of income and 'worth' of function. This 'caste system' in health institutions of the present day is one of their most insidious features. In the Technate, individuals will be trained for the jobs they will handle in the Sequence in accordance with their personal interests and their inherent capacities. Aside from the 660 or so hours of time each year that one will be called upon to devote to the function of the society, one's time will be his own; and his social and economic status will be equal to that of all other citizens of the Continent. Thus, the personnel of the Health Sequence, along with all other citizens of the Continent, can relax from the tensions that now accompany the efforts at pretence so common among the people of Price System North America. They will not be able to pretend that they are economically 'better' than they are, so they may as well relax and become reconciled to equality.

If you, as an inhabitant of the North American Continent, are at all interested in health and long life, as well as in release from the tensions which undermine your health and peace of mind, you have a personal and vital stake in Technocracy. Under the Price System, you are under the shadows of vultures, circling around, waiting for you to get sick or die so they can capitalize on your calamity. But, in the Technate, the whole society will be devoted to keeping you healthy and alive as long as possible, and no one will benefit from your demise. Your personal self-interest, if nothing else, should compel you to play Technocracy to win.

Here's to your health and long life in the Technate of North America!

—Wilton Ivie, CHQ

WHEN THE FLOODS CAME

(Continued from October issue)

(Due to lack of space, a large part of this article was deleted from the October issue of The Northwest Technocrat. The first part of the article described the floods afflicting the northeastern United States last August when Hurricanes Connie and Diane deposited heavy rainfall on the area. Now we present a description of the aftermath of the flood and some constructive comments on the situation.)

When the water receded, many low-lying dwellings were uninhabitable; some had been shifted, undermined, or carried downstream. All were filled and coated with stinking muck. Numerous mills, factories, warehouses, riverside restaurants, and other business establishments were wrecked or severely damaged. Aside from the damage done by the water, mud, and high humidity, much was done by floating debris which moved at high speed, including such large items as whole trees, parts of buildings, large timbers, and metal tanks. There were a number of disastrous fires, because the fire-fighting equipment could not get to them—on account of too much water. Frozen goods could not be saved; the food in refrigerators and freezers spoiled. It took days to restore power and telephone service in many places.

Many thousands of tons of lumber, paper, and other industrial products had gone down the rivers or were ruined beyond use by the water and muck. There was so much organic matter mixed with the mud—from washed out cesspools, flooded barnyards, etc.—that even sheet aluminum in the warehouses was corroded and badly discolored by it. The total damage was first reported to be in the billions of dollars; the tangible and assessable damage was later estimated to be somewhat less than one billion dollars. Most of the damage was done by the floods, so it was not covered by storm insurance, meaning it wasn't covered at all, as the insurance companies were quick to point out, referring to fine print stipulations in the contracts.

During the flood, there was some organized effort to evacuate and rescue the people and provide for their immediate survival. Schools, churches, and other available buildings on high ground were taken over and used as emergency quarters for the homeless. A sort of martial law was instituted.

Shortly thereafter, however, the organized effort dwindled to the protecting of property from looters. The cleanup, the rehabilitations, the misery were left for the individuals to struggle with. All social organization fell apart once the worst of the emergency was over. Nevertheless, the Red Cross, taking advantage of the calamity, continued to beat the drums for more funds; and President Eisenhower was flown in from his vacation spot in Colorado to add his voice to the appeal. The federal government, which could unhesitatingly hand out billions of dollars for the relief of reactionary fascist regimes abroad, could afford only 'peanuts' to help American citizens in distress—then mostly on a loan basis.

Non-Functional — In the Way

Following the flood, many people from the unaffected areas drove down for sight-seeing purposes. The more sensitive ones came back, sick at the stomach from the sight of human misery and the stench of the muck. These sight-seers were not prepared to help in any way, and there was little they could do even if they had been willing. The National Guard tried to keep as many of them away as possible, partly because the more callous and enterprising of them were not above doing a little looting if the opportunity presented itself.

The victims of the flood, coming back to their homes and stores, stood around, hopeless and stunned, as they viewed their devastated property. Gradually and listlessly, they began to pick up a few items, clean them off, and put them out to dry. Soon, out of the necessity of the situation, they began to clean up—but all on an individual, anarchic basis. All was not calm during this early cleanup period, however; for, during the next few days and nights following the flood, much of the area was raked with terrifying electrical storms and more showers.

Many thousands of workers were without jobs. Some plants where they had been employed were no longer in running condition. Some would never open again. The owners of others were seriously considering migration to other parts. Real estate values plummeted overnight.

Insofar as the provincial-minded radio newscasters in New York City are concerned, events which normally happen in Pennsylvania or Massachusetts might just as well occur in Timbuctu for all the coverage they receive. So, when Pennslyvania and Massachusetts crashed the New York news broadcasts with their weather, you can be sure it was really something. The California news sources appeared as eager to give the eastern floods full coverage as they are careful to play down California's own chronically 'unusual' weather.

The northeastern United States, like every other part of the Continent, was completely unprepared for a major weather event. There was no preparation for a heavy rainfall nor for a heavy runoff of water. Yet, for less than the cost of weather damage over a few decades, there could have been installed a complete water control program. Private ownership of real estate property and investments in Price Systems values are the main obstacles to any job being done to meet the situation. It is obvious that politics is completely incapable of preparing for any such emergency.

If the area were properly engineered, it would be prepared to receive a rainfall of as much as twelve inches or more on ground that was already soaked. Means would be installed to hold back any fast runoff of the water and to avoid flood emergencies. Heavy rainfall would not be allowed to flood down to the sea, wasting the water and causing heavy damage in the process. The water would be held in the soil, in the rock formations, and in holding basins, and be used to maintain a balanced water supply and to overcome the effects of dry periods such as that of the preceding July. But this kind of hydrology would require area control and social organization on a scale that society under the Price System could never contemplate. The Price System would have to be abrogated first.

An adequate engineering of the area would also demand that structures and other features be prepared to withstand wind velocities in excess of 100 miles per hour. The Big Blow that swept over New Jersey and eastern Pennsylvania at Thanksgiving time in 1950, lasting for three days, with wind gusts over 75 mph and accompanied by heavy rains, caused many millions of dollars worth of damage to storm-insured property. In addition, the toll in uninsured property, destroyed trees, and other unassessed losses must have been even larger. Such a blow had not occured for, perhaps, a hundred years and no provision had been made to withstand one of that magnitude. Only last year, Hurricanes Carol, Edna, and Hazel had roared through the area with high wind velocities, in separate but parallel paths, causing grief and destruction far beyond any excuse for such.

We do not contend that all damage from 'the elements' can be prevented; but a very high percentage of it can. Since weather events are a present and intermittent danger, one would suppose that the social organization would concentrate on ways and means of dealing with them in a well-regulated manner. Certainly, this would be far more sensible than watching the skies for illusory enemy planes or fiddling around with high-cost conferences, called to discuss the futility of 'calmly' evacuating the population of large cities to unprepared countrysides under postulated panic conditions.

Whatever are the natural physical dangers to this Continent, North Americans have the capacity to meet them and take them in stride, but at present they lack the strategy and social organization that is required—even for survival in time of disaster. The strategy and organization needed is one that's prepared to anticipate and prepare for the worst that is likely to happen long before it happens; so that, when it does happen, it will not wreak havoc, but be noted only as a passing event.

—Techno Critic

P.S.: Heavy rains accompanying an Atlantic 'cyclone' in October again drenched the northeastern United States, causing more serious floods and wiping out much of the repair work that had been done since the August floods.

Equality of Opportunity

MUCH LIP SERVICE has been given to the concept of equality under the so-called democratic way of life, as sponsored by benevolent business enterprise. It is a popular cliche that every child born in the United States is a possible future President of his country. It is widely assumed that any man can make a million dollars. All that is required to become a success is diligence, honesty and thrift. The fallacy of this myth is soon dispelled by just looking at the people around you, or gazing into the nearest mirror.

In the days of hand tools and human labor, there was a natural scarcity of goods and services for people to consume. Consequently, only a few were able to enjoy a comparatively high standard of living. With the advent of the machine and the utilization of non-human energy, natural scarcity has been in retreat. Abundance for all is looming on the horizon. We are living in an age of potential abundance. This condition applies particularly to the North American Continent, with its wealth of natural resources, its industrial capacity, and its skilled labor force.

Attitude Toward the Future

Unfortunately, too few of our people are aware of this revolutionary new circumstance, or appreciate its implications. More unfortunately still, many of those who do realize what promise the immediate future holds, do not like it. This attitude is held by those who enjoy—or aspire to—a preferential position within the status quo. They hold a high degree of personal privilege and prestige under the present social system, and are thus not anxious to embrace a change for the betterment of all. So, Canute-like, a prodigious effort is being made to stem the tide of abundance by the maintenance of an enforced scarcity. However, one will get you ten that the breakthrough of abundance is not too far distant.

In the meantime, we remain saddled with scarcity. The equality that we are able to enjoy is summed up by the sardonic remark made by Anatole France: 'The law in its majestic equality forbids both the rich and the poor to sleep under bridges, to beg in the streets, and to steal bread.'

Only in an economy of abundance, as envisaged by Technocracy, can the citizens of this Continent enjoy the only equality that counts, equality of opportunity. In the Technate, everyone will receive equal, non-transferable incomes. Women will receive the same as men. The standard of living available to all will be the highest that can be maintained without depleting our natural resources.

Each young adult will be functioning in a line of work for which he has a preference and an aptitude. Each young citizen will have an equal opportunity to select the career he wants, and each will be able to partake of as much education as he is able to absorb. This projection into the future is in sharp contrast to the way things are today. Now, if you want unlimited educational opportunities and a career of your own choosing, you need to arrange to be born into a family that is financially well-fixed. And even then, due partly to limited school and university budgets, the training that you do receive falls short of what is physically possible. In the Technate, there will be no artificial restrictions.

Similarly, there will be no artificial restrictions on the provision of health services. Each person will receive a complete health examination twice a year. Whenever treatment is required, there will be no price consideration to be taken into account. The best possible care will be available to all. The opportunity to enjoy good health will be possessed universally and equally.

In the matter of health, it is well to mention here the importance of diet. With an equally-shared high level of income, everyone will be able to enjoy the finest possible selection of nutritious foods. There will then exist no incentive to produce inferior edibles for public consumption; the sharp business practices of today will no longer have validity.

Clothing, too, will be the best that can be provided. Everyone will have equal opportunity to wear clothing suitable to his or her needs and in accordance with his or her individual tastes. Shoddy material made to wear out quickly in order to provide repeat business will be a thing of the unsavory past.

Equality of opportunity to live in well-designed and efficiently-built homes will be the order of the day. Occupants will receive protection from fire, storm, vermin, hot and cold temperatures, noise and unclean air. No longer need we tolerate the hovels and junk housing that abound today—for the undeserving, of course.

The Dollar Bill Decides

Under scarcity conditions, the dollar bill decides who will have the privilege of participating in the various types of recreation and amusements available. In the Technate, each will have equal access to all that we have today and to the many improvements and extensions that can be made. The number of working hours will be greatly reduced and the retirement age will be much lower than presently, thus increasing the free time available equally to all citizens to utilize in the fashion that suits them individually. Opportunities for everyone to develop his or her latent talents, artistic or otherwise, will be unlimited.

It is claimed, usually with great fervor, that we are all equal in the eyes of Justice. Under our present system of vast income differentiation, it just does not work out that way. When it comes to minor infractions of the law, those who are well-heeled are able to pay the fines that are levied without giving the matter a second thought. Conversely, individuals and families who are struggling with a tight budget have to be correspondingly more 'law-abiding.' In cases where more serious crimes are involved, too few of us are able to afford the heavy court costs (and delays) that are entailed; many cases are lost by default for that very reason. And as for the matter of lawyers' qualifications, naturally, the most money hires the best lawyers. So, you see, the cards are stacked against 'the little guy.' In the Technate, on the other hand, you will not be able to buy justice; legal 'rights' will not accrue to the highest bidder. For the first time in history, all citizens will be on a truly equal footing.

Abolition of Most Crime

Incidentally, speaking of illegal activities, it is worth noting that, with the provision of an abundant living to all from birth to death, the incentive for about ninety per cent of all crime will be removed. What is left will be dealt with by the best available psychiatric methods.

Much ado is made about the liberty of expression that is supposed to be revelled in by us freedom-loving people. Once again, the facts run counter to the claims. For instance, the current inquisitional heresy-hunt makes a mockery of the contention that we are able to say and print whatever we think. Moreover, the facilities for making one's views known to others are greatly restricted today. If you have the money, you can make use of printing presses for newspapers, leaflets and periodical magazines; publishing houses for books and pamphlets; radio and television; hired speakers for public meetings; billboards and roadsigns; and so on. The theory seems to be that if you are in the lower income brackets you won't have any 'practical' ideas, anyway. Have you tried to get a letter-to-the-editor published lately?

Archaic Government

A political government is a government of people (by the politicians, for the businessmen). A technocracy is a government of things. A political government acts as an umpire, adjudicating the various claims made by individuals and groups on the wealth of a country. As an economic arbiter, it makes decision that are a controlling factor in the life and well-being of the citizen. Under conditions of abundance equally shared by all, the political interference control becomes obsolete. Our highly industrialized, high energy civilization requires a functional social organization, as advocated by Technocracy. This functional type of governance will have as its responsibility the design, construction, installation, operation and maintenance of the physical equipment of the Continent. The goods and services produced thereby will be equally available to all citizens of North America. Restrictions on the activities of the individual will be at a minimum consistent with the welfare of all.

When one speaks of equality of opportunity, what is usually uppermost in the minds of people is their chance of advancement in their job, business, profession, or other career. What will it be like in the Technate? Well, the foremost factor to keep before you is that one's standard of living and that of one's dependents will not depend on what you are able to earn by selling your man-hours. (For one thing, you will not have any financial dependents.) In return for 'living like a king,' each person will be required to make an equivalent contribution to the necessary work of society. Whatever success you meet with in your career will depend on your ability, and everyone will have equal opportunity to acquire all the skill he can develop. It is a natural desire for an individual to want to appear well in the eyes of his fellows. He wants to be appreciated for what he is and for what he can do. In other words, he seeks a measure of prestige. In the Technate, the further he advances in his chosen work, the more will he earn the approval of his associates. Furthermore, he will have the satisfaction of doing well the thing he likes doing best.

North America — An Economic Unit

Someone may ask, 'Why not confine this equality of opportunity to one state or province or country, instead of the whole Continent? Or why not extend it to include the rest of the world?' The reason is that North America is an economic unit; Rhode Island or the earth are not. This Continent is a land mass that contains within its boundaries all the physical requirements for a self-contained, industrialized social order. This is the only area on earth at the present time that has reached a rate of conversion of extraneous energy that will soon require a reorganization of its methods of operation. If the people of any other area wish to follow in our fotsteps, we will give them every assistance that we can. But, it must not be forgotten that other parts of the world have different problems than we do; or, rather, the same problems but in a different magnitude. For example, many places do not have much arable land; other places, not enough water; the concentration of mineral resources on the face of the globe is spotty; many countries have a population problem that will have to be solved before they can make much headway in progressing from their backward stage.

The responsibility for this area of North America lies with us, now. We are faced simultaneously with a serious, unique problem, and with the opportunity of the ages. Fortunately, the unique solution to this unique problem lies at hand, in Technocracy. Technocracy at the same time contains within it the fulfillment of the age-old goal of equal and abundant opportunity for all. It is almost within our grasp, but we shall have to reach for it. What are you doing to help?

—John Sheldon, CHQ

ROBOT OPERATES PRECISION LATHE

CHICAGO—A robot-operated lathe, through a magnetic tape, makes intricate precision parts.

Another machine automatically figures out how much acid there is in any substance . . . milk, oil, chemicals, plastic materials.

The second international automation exposition was a bewildering network of lights, machines, wires, conveyors and switches.

The exhibition hall is cut into long corridors with exhibits of 169 manufacturers of automatic equipment, 60 of them from the Chicago area.

—The Oregonian

ORE IMPORT NEED CITED

LAS VEGAS, Nev.—Secretary of the Interior Douglas McKay said recently most of this nation's high-grade ores have been depleted and the United States now faces a "growing dependence upon imports" to meet mineral needs.

"No longer can we fight a war or sustain an industrial economy without the aid of materials from foreign sources," McKay told the opening of the American Mining Congress Convention.

He said the United States is "heavily dependent" upon imports for tin, chromium, nickel, manganese and bauxite.

"We have to learn increasingly to handle economically the submarginal minerals," he said. "We must use newer devices, better instruments—we must look deeper if we are to find new commercial deposits."

The interior secretary warned delegates that this nation's security and survival "depends upon our ability to procure mineral raw materials."

McKay said that during the last half century, man's consumption of mineral products far exceeded that of the whole period preceding his existence on earth and that the demand continues to soar.

"We produce one-third of the world's minerals, but we consume half the world's production of minerals," he said.

—Oregon Journal

—A 'bright' political answer to our resource depletion problem—rob the rest of the world of its minerals!

DEVELOPING TRENDS

HIGH BIRTH RATE GREATEST PERIL

LONDON—Lord Simon of Wythenshawe charges there is a "conspiracy of silence" to conceal from the world a threat to it more grave than the cold war or the hydrogen bomb. The threat, he said, is the birth rate.

The population of the world increases by more than 88,000 every day. This means an increase of 34,000,000 a year.

In 1900, there were about 2,000,000,000 persons on the earth. By 2000 A.D. there will be about 5,000,000,000.

The world is increasing its population with no regard for the fact that few countries can adequately support new population, Lord Simon said. The millions of new mouths to feed and millions of new bodies to clothe are setting up "dangerous pressures" around the world, he said.

Lord Simon, 76, headed a group of "distinguished natural and social scientists" who just completed a two-year survey of "world population and resources." With publication of their findings, Lord Simon let go with an attack on what he believes is a deliberate attempt to ignore the birth-rate dilemma.

"You can't even get public bodies like the United Nations to discuss overpopulation even though it is a matter of unparalelled urgency," Lord Simon said. "Why? I suppose because control of births cuts across some religious and folk beliefs."

The population survey was sponsored by Political and Economic Planning, an independent research organization which has inquired into matters of public concern for 24 years. Its council of management includes a number of prominent Britons.

—United Press

NEW RECORD SCORED IN OUTPUT OF GOODS

WASHINGTON—The Commerce Department said the nation's total output of goods and services increased during the third quarter of this year to an annual rate of 391 billion, 500 million dollars—a new record.

This was 6 billion, 500 million dollars higher than the rate of production in the second quarter of this year. It also was a gain of 32 billion, 500 million dollars, or about nine per cent, over the rate at which goods and services were being produced in the third quarter of last year.

The report said the gain in the third quarter took place despite a sharp cutback in the rate at which business men were purchasing goods for inventory.

All current reports indicate that further gains in total economic activities have been made in October, the opening month of the final quarter of this year. This indicated that the nation might close out the year at a rate of production close to 400 billion dollars.

—Seattle Post-Intelligencer

AUTOMATION TO MAKE 15 MILLION NEW JOBS

WASHINGTON—Congress members studying the impact of automation on American industry were told that new automatic, labor-saving devices may create 15 million new jobs in the next 10 years.

Dr. Cleo Brunetti, a research engineer, made this prediction. He added:

"I believe so many new products will be needed the labor force will be insufficient to take care of them."

Brunetti, director of engineering research and development for General Mills, Inc., testified as other spokesmen for industry and organized labor presented varying opinions on what automation may do to the economy.

Representative Patman (D, Tex.) said he found Brunetti's testimony "very heartening." Previously, Patman said, the committee had received the impression that "we might as well adjust ourselves—automation is upon us and we'll have to have a shorter work week and retire earlier."

Brunetti described automation as a gradual, step-by-step development.

—Associated Press

—Oh yeah? Now listen to another side of the same story.

DOWN ON THE FARM

HOUSTON, Texas—A new mechanical marvel for corporation farmers, called the "Wonsover," is about to go into production here. In one machine, to cost over $20,000, it combines plowing, harrowing, soil-conditioning, seeding, fumigating and fertilizing. The Wonsover's inventor says it knocks 90 per cent off the labor time usually needed.

—Labor

TAKES 450 JOBS

Six electronic machines will replace 450 of the 750 people now employed to keep track of the 350 million checks issued each year by the Federal government, it was announced in Washington this week.

—Labor

AUTOMATION 'MIRACLE'

A new quarter-mile-long automatic machine, costing $2.5 million, has halved the cost of production and cut labor needed by 25 per cent in assembling the engines for new Plymouth cars. Milton Cross, head of the firm that made the new machine, said 50 of the 200 workers formerly employed on the job have been shifted to other work. General Motors and Ford have similar machines on order, Cross added.

—Labor

A new electronic accounting machine has just been adopted by Bank of America which will eliminate 85 per cent of the personnel now doing auditing, freeing those employees for more creative work.

—Oregon Journal

—'Creative work'—a new name for job seeking.

DEEPER IN DEBT

The American people as a whole went $500 million deeper into debt in the second quarter of this year, the Securities and Exchange Commission reported recently. It said that in the three-month period our people borrowed a half-billion more than they saved, and that this "was chiefly due to the exceedingly large sales of automobiles purchased on time."

The report says nothing about the important fact that most of the saving was done by big-income families, while most of the "time payment" and other borrowing was by families with smaller incomes. The latter increased their debts by far more than $500 million, but that was obscured by the savings of the rich.

—Labor

SOLAR ENERGY

PHOENIX—Changing conditions are contributing to an "almost explosive" interest in solar energy, a University of Wisconsin scientist said recently.

Dr. Farrington Daniels, expert on photosynthesis, said studies indicate that depletion of supplies of coal, oil and gas "will come sooner than we think."

Speaking at the World Symposium on Applied Solar Energy, Dr. Daniels said that while, in the United States, the problem "may be one for our grandchildren," in some countries the pinch already is being felt.

About 800 scientists from some 30 countries will spend the remainder of this week exchanging ideas on the utilization of solar energy.

—Seattle Times

—If you have grandchildren it's their problem now.

SOLAR HEAT PLANT

PHOENIX, Ariz.—A Soviet design for a fantastically large sun power machine to heat and cool a city of about 17,000 population was reported to the World Symposium on Applied Solar Energy.

The machine, still in the paper stage, would utilize more than an acre of mirrors on slowly moving railroad cars to focus the sun's heat on a water tank atop a 135-foot tower to produce steam for power.

The solar heat hitting this tank would produce during each working hour thirteen tons of superheated steam at 330 degrees. The steam would heat houses, or cool them or produce power to pump water for irrigation.

—New York Herald Tribune

BETTER BORDER LINES URGED

SEATTLE—Committees representing the Washington and Oregon legislatures met here in an effort to determine the boundary line between the two states.

Although the Columbia River is the dividing line, a more exact mark is necessary whenever a dam or a bridge spans the river. This is necessary because accidents during construction must be determined as to which state is responsible under the states' respective workmen's compensation laws, and the tax questions involved.

The two committees were created at recent sessions of the two legislatures.

—Oregon Journal

—Just another outmoded problem between two outmoded factions of an outmoded system.

ELECTRONIC MESSAGE NET LINKS TRUCK OPERATIONS

A supersensitive electronics "message finder" which connects Consolidated Freightways, Inc., with 64 other cities went into operation here.

The teletypewriter relay device, developed by the long lins department of American Telephone and Telegraph Company and its Pacific company, is the first of its kind anywhere in the world.

Technically, it's an electronically controlled communications system which makes Portland the hub of the carrier's vast network.

All messages dealing with the company's 2,000,000 shipments-a-year will be routed through the center here in an oven-like arrangement of 18 receiving devices and 15 transmitters.

If Chicago wants to send a message to Seattle, or other Northwest points, here's what happens:

The message is typed on a machine much like an ordinary teletypewriter. Each time a character is struck on the keyboard, a representative symbol records on tape.

The tape is fed into the Chicago transmitter. The rest is automatic. At Portland, the message scanner "pulls" in the transmitted tape.

Message center personnel here take the incoming tape, push button-select its destination, and feed it on to Seattle or other city.

Telephone system engineers said the device enables personnel at outlying stations to transmit their messages instantaneously, then go on to other work with knowledge it will automatically be transmitted.

Development of the system for Consolidated was started 15 months ago. It will serve 65 centers in 12 different states.

Leland James, chairman of the board for Consolidated, said the new equipment is the best means developed for controlling all its 2000-odd vehicles on all the highways simultaneously.

—The Oregonian

—As the machine we live in becomes more complex, it requires better communications for more functional and efficient operation.

'CREWLESS' TRAIN? SAFETY QUESTIONED

The New Haven got a lot of publicity recently when its president, Patrick B. McGinnis, announced that the carrier will experiment with a "crewless" train soon. It will be operated between New Rochelle, N. Y., and New Haven, Conn. McGinnis said he will control the train himself through electronic equipment in a truck on a highway adjoining the carrier's right of way.

Whether McGinnis' scheme is just a publicity stunt or a serious venture remains to be seen, but rail labor chiefs said they'll be watching it with interest.

Commenting on the plan, President H. E. Gilbert of the Locomotive Firemen and Enginemen declared workers welcome technological improvements, but he warned that "machinery cannot replace the highly trained operating judgment of engine and train crews."

"Also, I doubt that passengers or shippers will care to risk loss of protection provided by human element," Gilbert added.

—Labor

—Only a union president interested in the preservation of his job could make such irrational statements. (P.S.: The experiment was carried out, found to work efficiently, and then it was abandoned. Why?)

Have You Observed?

. . . **Quite often** articles in the press or programs on radio and TV paint a glowing picture of the future of North America, that is, glowing by Price System standards. Periodically, some economist with a shriveled up imagination predicts an annual income of $7,000, or some such paltry figure, for every adult by the year 2000. Always, any increase in the standard of living is in the distant future in these prognostications. This serves two purposes: it gives the individual a faint feeling that there may be an improved social order in the offing, and therefore life isn't futile because progress will be made; but at the same time the individual is assured by the projected date of arrival of the improved social order that he'll be dead and gone when it gets here. So it is strongly implied, 'Grin and bear it, sucker. Don't ask for anything better because it isn't here yet to get.' Be thankful for what you have, and be glad that the administrators of the present social system are so clever that they can store nearly eight billion dollars worth of agricultural products, make you pay for it and like it.

. . . **The farmer** in Canada and the U. S. is becoming a sad spectacle. For a while his voting inclination was pretty reactionary when he thought he had it made. The farm population threw a lot of support to the Republican Party. However, the wind is blowing in another direction since farm income has taken it on the chin. As an overall picture, farm income has dropped twenty-five percent since 1947, most of which has occurred since the Eisenhower crowd arrived on the Washington scene. The Big Business policy of the administration systematically is freezing out the smaller farmers, as it is similarly affecting all of small business. As one farmer put it, 'we farmers can't afford to be Republicans,' which probably is the only reason why many farmers aren't Republicans.

. . . **One of the bedtime stories** of the Price System is that as our productivity increases, there is a corresponding increase in the living standard. The propagandists neglect to mention that a great share of the total amount of goods and services produced is consumed by mortgaging future income; and when viewed as a national picture this debt precludes any appreciable decline in prices, mainly as a result of its long range nature.

. . . **Despite** incredible agricultural surpluses, many farm products continue to rise in price. Milk again is advancing in price to new high levels. How come? Inquiry reveals that the price paid to the farmer has dropped approximately $1.85 per hundredweight from the peak price paid to him for milk. The explanation for the continuing rise in cost of foodstuffs to the consumer is 'increased marketing costs.' What is a fair profit? All you can get, brother.

. . . **Time was** when a forty cow dairy ranch provided a comfortable income for the owner. A forty cow ranch shipping a thousand pounds of milk a day has lost more than $500 per month contrasted to a few years ago. A forty cow ranch isn't big enough to pay the required help. It's either expand the operation or get out. The consolidation process is gaining momentum in the dairy industry, typifying a national trend in the Price System.

. . . **For many years** Technocrats have been close observers of human behavior in North America, as abundance brings on steady pressure for distribution. Every effort has been made by the Price System to avoid conditions which would force the citizens of North America to reckon with abundance. The people of this Continent have scrounged and settled for a 'hamburger' when they could have had a 'steak.' Now the steak is frying. How will you have yours? It's either eat it or choke to death on it.

—Harry Briggs, 12247-1

The narrow two-lane highway pictured above, like many others in our country, is inadequate to carry today's heavy traffic load. When the traffic load is heavy, faster vehicles attempting to pass slow moving vehicles become a major cause of accidents.

Photo courtesy of California State Highway Commission

RIBBONS OF DEATH

DURING the two week vacation afforded industry's workers a great many families get into their high powered automobiles for an extensive trip. Going to visit one's relatives or to tour the country to see another area which might be within a radius of 1500 miles requires extensive driving or speedy driving to be able to have time to visit or sight see. Since the relatives 'foot the bills' while visiting them, lodging costs en route dictate that the traveler make a minimum of stops, travel at the maximum rate of speed and from sunrise to sunset. Being discouraged by the stop lights in the city and slow city traffic the vacationers are going to 'hit the open road' in order to get that 'free' feeling again. Traveling on the first few miles of modern highway at speeds not usually attained in the city does give one a feeling of tranquility. Probably this road is an adequate, limited access, divided multi-lane highway which is necessary for the ingress and egress of commuters to a large city. This type of highway affords a passing lane or fast traffic lane and a lane for the slower traffic. After a few miles on this piece of engineering design, the rude awakening comes —the adequacy of the highway drops to that of one designed to carry traffic of twenty years ago. Twenty years ago the traffic was much slower and not so heavy since there were only approximately 10,000,000 vehicles in the United States of America. Now there are about 60,000,000 vehicles traveling at greater speeds. To make things worse there are many heavy trucks carrying capacity loads which mutilate these old roads.

Some of the criteria necessary to design and build satisfactory modern highways are discussed below.

Modern highways should have long stretches of smooth straight road with long gentle grades to get over hills. Multiple lanes and provisions for cross traffic to either go under or over and a minimum of curves are requisites to a modern highway. The curves should have a large radius with the proper super-elevation so that the traveler can drive at high speed with safety. Contrary to these requirements, the old roads are narrow, bumpy, curvy black ribbons which make it very difficult to travel very far safely in a day. Twenty years ago it was quite an accomplishment to get a wagon trail paved to get rid of the dust. People were quite satisfied to have these trails paved to drive on, but even today the drivers must be somewhat satisfied since they refuse to get excited enough about them to write their representative in the Government demanding that the highways in our country be safe modern ones.

Having driven on a modern highway for several miles in leaving the city behind one finds that this type of highway comes to an end and that a two-lane black ribbon takes its place. One also finds that this ribbon is so winding as to make it unsafe to pass a truck or other slow-moving vehicle. After 'waiting' impatiently behind this vehicle for a possible open stretch in the road ahead in which to pass, the driver decides to take a chance and pass. Sometimes he is fortunate in that an oncoming car is not too close for passing. If an oncoming car is close, the driver will do well to apply his brakes and get back into line again. Otherwise it may mean sudden death. The head-on collision is one of the greatest causes of highway deaths. This killer can be virtually eliminated by an adequate strip separating the opposing lanes of traffic. Highways cluttered with business establishments along the side seem destined to remain that way unless the highway planners acquire land for this separation strip. The popularity of the highway has made the land next to it quite valuable since it brings a steady flow of possible customers to the roadside businesses. Along this same line of thinking of getting rid of the distraction of the roadside businesses is the possibility of the highway by-passing the towns and cities. A study of the effects of highway by-passes on Oregon cities was ordered recently. Among the topics to be studied were: 1. Effects on communities. Ease of access to and from the by-pass will be considered. 2. Types of business firms adversely affected upon opening a by-pass and their relative importance to the community. 3. Adjustments that adversely affected firms make when the new traffic pattern is established. 4. Types of business benefited by by-passes. 5. Changes in real estate values. So from this study one can surmise that these people are not interested in preventing congested traffic or decreasing deaths.

This picture shows a passing lane for traffic going uphill. This was installed to prevent accidents caused by trying to pass slow, heavy vehicles going uphill. This smooths out the flow of traffic on the highway.

Photo courtesy Washington State Commission

The well worn slogans about safe driving are poor palliatives when one is trying to travel a reasonable distance before nightfall. By being alert and knowing some of the fundamental rules of driving one can travel with some degree of safety, but we are not talking about living under handicaps when by solving this physical problem we eliminate the need for such slogans as 'Drive Safely—the life you save may be your own' and 'If you drink—don't drive.'

In the early '30s a number of highways were constructed to handle the traffic of that time and the speeds commonly traveled then. Today, a great number of those same highways scarred by numerous patches are the roads which are provided for the present heavy traffic travelling upwards of a mile-a-minute. These roads are not only too narrow and too rough, but all too often a sign looms up indicating a curve with the inscription 'slow to 25.' This sign is not always heeded and as a result a few more lose their lives on these ribbons of death.

If the automobile industry continues to turn out

On some of the more crowded, higher accident rate highways State and Federal Highway Departments built divided double-lane highways such as the one pictured above. However, on holiday weekends when most everyone is turned loose on the road at the same time, these highways become plugged with vehicles.

Photo courtesy Washington State Highway Commission

cars at the rate of 6 million a year, soon the Congress of the United States and the governing bodies of the states are going to have to take some action to alleviate the highway death toll. Within some of the cities in the United States and for short distances from these cities there has been an effort to construct roads which will handle the traffic of today. However, an integrated highway system is not to be found. This is evidenced by the tie-up of traffic when one car is stopped for some reason.

Limited access highways which provide either overpasses or underpasses for cross traffic are far too few and far too short. Limiting the access to the highway means skirting all of these small towns which provide 'Speed Limit 25 mph' signs on entering them. The stop-lights in these small towns making further delay necessary are another reason for by-passing the towns and cities with the highways of the future.

With the automobile industry producing millions of new vehicles the highway congestion will continue to get worse. These black ribbons of death will continue to take an ever-increasing number of lives if this nation does not take some bold steps to construct an integrated highway system throughout the United States. Such a highway system would include a roadway for entrance to and exit from the city to be integrated with a roadway connecting the cities each constructed to carry a large volume of traffic safely.

To restore the highways of the United States, Clay and Company proposed that the entire interstate network be either converted to limited access through relocation or land acquisition. This means that 180 to 250 feet of right-of-way would be obtained and service roads would be built to accommodate nearby business. The setting up of roadside businesses would be prohibited. This plan would eliminate most crossroads and permit 60-mile-an-hour speeds with safety.

One of the reasons no more progress has been made is that each state has its own specifications and methods of building highways. Further complication arises by having each legislative body in each state evaluate the necessity for safe highways differently according to the amount of money available for road construction. Even the U. S. Government's money is apportioned by the State legislative body.

Technocracy proposes that the citizens of the United States and Canada install a government of function and get rid of such obstacles as the politician and money. Highways which are properly engineered with well-planned routes, without state boundaries to interfere, and constructed to carry a large volume of traffic as well as the heavyweight traffic, could then become a reality. Are you willing to help bring this about? If so, join Technocracy Inc. now.

—George Kellogg, 12247-3

ECONOMIC IMBALANCE

When the environment happens to be such as to provide him with an easy way of life, he tends to live it up at a rate in excess of the natural replenishment of the things he uses. Eventually, the elements of the environment, about which he has become so careless, no longer remain in sufficient abundance to support the wasteful practices he has learned to follow. Man's environment, then, becomes thrown out of balance.

The study of man's behavior in various parts of the world and at different times in history demonstrates beyond doubt that he is very careless about protecting the evironment within which he must live. When the environment happens to be such as to provide him with an easy way of life, he tends to live it up at a rate in excess of the natural replenishment of the things he uses. Eventually, the elements of the environment, about which he has become so careless, no longer remain in sufficient abundance to support the wasteful practices he has learned to follow. Man's environment, then, becomes thrown out of balance and he is condemned thenceforth to scratch a meager living from the wreckage of the heritage he has squandered.

When the first adventurous migrants from Europe settled as pioneers on the North American Continent and began slowly to penetrate westward, they had no true realization of the greatness of opportunity at hand. It was not for them to institute long-range planning with respect to the area and the resources of the New World. They brought with them the concepts of peasant farmers, of landlords, and merchants; and their goal was merely to duplicate on this Continent the same situations they had known in Europe, or a reasonable facsimile thereof. The dominant thinking was in terms of patch farming on a private enterprise basis, raising by toil and sweat the things they needed for survival and also producing a cash crop to exchange for the few things they could not produce themselves. They proceeded to reduce the area to a peasant-type economy.

Our forefathers, who we extol as the rugged builders of a Continent, went forth with axe and gun and plow, and they proceeded to cut, burn, shoot, and plow under the natural wealth of a virgin Continent. At first, their progress was slow; for, they were strictly limited in their capacity to apply the means of destruction; and the wealth of the area was so vast that it took many decades even to break out of the eastern coastal regions. But gradually the trees melted away as they were chopped down and piled up to burn. The rich soil was turned over and exposed to erosion, leaching, and depletion of its minerals. The game animals vanished. The Indians were 'rendered harmless' with rifle fire. The mineral pockets were worked out as fast as the techniques at hand permitted.

The process of ravaging the Continent was necessarily slow at first, due to the low capacity of the tools employed and the amount of human toil involved. But, in time, new tools were developed, extraneous power became available for man's use, and improved transportation opened the way to more distant markets. The destructive exploitation of the Continent became accelerated. Before very long, thereafter, man reached the Pacific Coast, thus spanning a wilderness that, only a few decades before, had seemed endless. Having reached the Pacific, pioneering man could go no farther, so he began to 'pile up' on the occupied area and concentrate his mischief.

Recklessly, the land was plowed, without thought given to contouring or terracing. The fields became gullied with erosion. The top soil flowed down to the sea by way of the arterial transport of the rivers, never to be recovered. The soluble minerals in the soil were leached away since little attention was given to holding the rainwater in the soil with cover crops. The brush and grass was cut, gathered into piles and burned, and much of the humus in the soil was burned along with the vegetation. The wind, subsequently, took up the dry, loose soil on the surface and on occasion turned day into night with black clouds of dust.

This settlement and exploitation of the Continent was marked with strife. The white man, being too aggressive and impatient to come to amicable terms with the Indians, soon found himself in violent conflict with them, and more or less continuous warfare resulted. There were fights between the different sects and other group interests among the settlers; and major wars were fought along political lines, fostered by European national interests. Eventually, the Continent was divided into three parts, Canada, the United States, and Mexico. Later, the United States split into two sides on the basis of major differences in their economic patterns, and the ferocious War Between the States raged destructively across the land for four hateful years. The resentments spawned in that war and during the 'Reconstruction' period that followed continued to simmer for many decades.

As the occupation moved westward, there developed fierce competition between the tillers of the soil and the raisers of livestock. There were many bitter feuds between the two. The fight was for cheap pasture on the one hand and for cultivated crops on the other, and much blood was spilled on the land over which they fought. While the tillers of the soil exposed the land to erosion of water and wind, the stock grazers turned the prairies and hillsides into barren wastelands. The rich grass was grazed to the ground; and the grasslands, too, were gullied and eroded by water runoff and the dry soil was blown away by the wind. In this process, there were also feuds between the raisers of cattle and the raisers of sheep for the dwindling pasture of the public domain.

Little Fellow's Struggle

For the little fellow, the struggle was essentially one for survival. This struggle was made worse through the prevailing practice of economic anarchy, wherein each was on his own, to prosper or starve as circumstances happened to affect him. Whatever government support there was, it was usually slanted in favor of the big fellows, who generally supplied or bought the legislators from their respective areas. For the man of greater economic means, it was a struggle to gain still greater wealth and power.

But whatever was the motive or the economic capacities of the settlers, the timber was destroyed, the game animals killed off, and the soil and pastures depleted. Nobody appeared to care much about the wastage; for, there was always more land to be homesteaded and more homesteaders to be swindled out of their holdings.

It was not only the exploiters of the soil and grassland who contributed to the deterioration of the Continent. As civilization moved westward, so moved the lumber barons, the coal miners, the metal miners, and the industrialists. First, came the seekers after gold; and they tore away the ground and hillsides with their hydraulic jets, leaving rugged gravel wasteland behind them. The coal strip miners created equally ugly devastation, only more of it. The metal mines and smelters left heaps of rock and slag and denuded the surrounding countrysides with their poisonous fumes. The once proud stands of forest looked as though they had been torn into shreds by artillery fire; and other extensive areas became blackened by fires. Industrial wastes soon polluted the waters of the rivers and killed off the edible fish populations.

As for the people who migrated to this Continent and those others who subsequently moved westward in quest of the wherewithal of survival, we can be charitable in our judgment. They worked hard—too hard—for the means of livelihood they gained; and they faced terrifying dangers. They were toughened and dulled by the struggles of frontier life. They were ignorant of most of the things we know today. And they were careless of the resources for which they saw no immediate use or sale. Although they did considerable damage, it was mostly picayune compared to the much greater destruction and wastage which we are perpetrating on the Continent today. We are not the ones to condemn them.

Those whom we find it less easy to forgive are those who plundered the resources, not out of necessity for survival but to pursue the sirens of commerce. They are the wholesale despoilers. They ravaged the Continent for the sake of turning its wealth into tokens of debt, then using those tokens of debt to live luxuriously on the hilltops from where they could look with disdain upon the hovels in the smog-filled gullies below, or to gamble recklessly with the lives and fortunes of men, or to wield power and wage wars. Following the landholders and barons of industry came the financial manipulators, those who disdained dealing directly in the physical wealth of the Continent and turned to dealing only in the tokens of debt.

Timber Waste

The timber barons who slashed out the choice timber of the vast forests of North America were little concerned whether the timber should be used wisely or whether the timber requirements of future generations should be filled. Their problem and chief interest was the cutting and merchandising of the most profitable stands of timber—for any purpose it might be used and for any price the market would bring above the cost of operations. The tough, rugged men whom they employed to do the actual work were treated on a par with the draft animals used to haul the logs. It was not without significance that the loggers were referred to as 'timber beasts.'

Among the barons of the iron mines and the steel mills, the major concern was taking the ore from the geological deposits and turning it into iron and steel, then selling these products on the markets to the highest bidders. Who cared what the iron and steel were to be used for or that most of it would be corroded into rust a few years later? All that really mattered to them was that a few of them be able to build castles on the hills. They were the ones to be eulogized in the history books. But no one kept a record of the 'hunkies' who coughed out their lungs amid the smoke, the fumes, the poverty, and the squalor of the company towns.

The same general pattern was repeated, time and time again, among the plantation owners of the south, the cattle kings of the west, the haciendistas of California, the textile mill owners of New England, the coalmine operators of Pennsylvania, West Virginia, and Illinois, the ship-owners of the Atlantic coast, and the railroad builders of the mid-continent. And living off of the predators were the parasitical bankers and stock-promoters. The social pattern for this Continent was molded after the sorry pattern of Europe; only here there were more resources to feed the maws of commerce and there was less restraint on those who chose to 'run hog wild.' In more recent times, petroleum, manufacturing, and munitions have paved the way to super wealth and arrogance.

Science and Technology — Expansion

The industrial expansion of North America coincided with advancements in science and technology. The fruits of these advancements, however, were quickly monopolized and misused by the fortune seekers, with the result that the process of destruction and depletion of the natural resources was pushed to far greater speeds than could be conceived only a century before. With the aid of science and technology, there has been such a rapid exploitation of our resources that, in spite of huge exports, the extravagant wastage of warfare (not all of it necessitated by the conduct of the war), and the storage and spoilage of vast quantities of produce at home, there has been enough physical wealth filter down to enhance the living standards of the entire population. Because of science and technology, our society is largely free of chattel slavery, of serfdom and peasantry, of 'hunkies' and slum-dwelling factory workers.

The people of North America might be satisfied on the whole with the way events are developing if only the economic progress can be sustained indefinitely into the future. But there is slight hope of that. Already, there are numerous danger signals warning that our economy is out of balance and that it is getting progressively farther out of balance each day. Already, the United States is importing oil, iron ore, other metals, and fertilizer in hugh quantities. Our own production is falling short of our national demands. This is a highly tenuous and, necessarily, a very temporary condition. No one likes to think of what our plight would be if other nations should decide to deny us access to their resources. But the financial barons of the Continent are concerned only with the figures on the balance sheet of the corporations in which they have an interest. And the average American cares little so long as he can draw a pay-check and buy the things he wants at the retail stores and appear reasonably respectable.

Only if we should have at our disposal in the near future unlimited energy and unlimited resources, would it be conceivable that we might continue with our wasteful practices. But, even if atomic and solar energy should supply us with all the power we could use for an indefinite future, there is still the matter of minerals, soil, fresh water, and fertilizer. However, should even these limiting factors be overcome somehow, there would still be the rules of the game of the Price System to plague us. The manipulation of prices and debt under the Price System demand scarcity. If there is to be actual abundance, then the Price System must go; for, abundance and price are incompatible.

The resources of the world are finite, and most of them are scarce. We of the United States are learning this age-old lesson the hard way, as the production of one mineral after another fails to supply our demand. Yet, if our debts and our investments are to be validated, our economy must continue to expand forevermore. The struggle in the future will not be one of finding more efficient means of expanding our wastage of natural resources and thereby creating ever greater debt; rather, it will have to be a war against waste itself. All the things that are now anathema to the Price System will have to become the accepted order of the day.

Centralized planning and continental organization are among the things most hated by the 'empire builders' of the Price System. Integrated operation of all industry, mining, agriculture, transportation and services must be instituted to eliminate duplication and waste motions. A planned recovery of all by-products and waste products will have to be observed. Wars will have to be abolished. Durable goods will be made for maximum service; and usefulness, not salability, will become the prime reason for producing anything. All of these things are heresy under the Price System. But, if our economy is ever to be brought into permanent balance, they will have to be instituted.

The sooner we set about doing these things the better, but chances are that we will dawdle along until some major emergency forces us to do that which we should have done long ago. Fortunately, the way into the future of abundance and a balanced economy is not an uncertain path. The blueprints for it have already been prepared; so we know what to do and how to do it, anytime we are ready. If only you will familiarize yourself with Technocracy's program for the North American Continent, you will know what the future can hold for you and your fellowmen. Knowledge is a far better tool with which to approach the uncertain days ahead than mere hope and faith. Leave the latter to the politicians and advertisers. In Technocracy, you will be able to know more than they even pretend to know. You will know, among other things, how to balance the economy and maintain a high-energy civilization on this Continent for an indefinite duration.

—F. C. Glenn

Part of Western Washington Area Gray Fleet above Chief Joseph Dam.

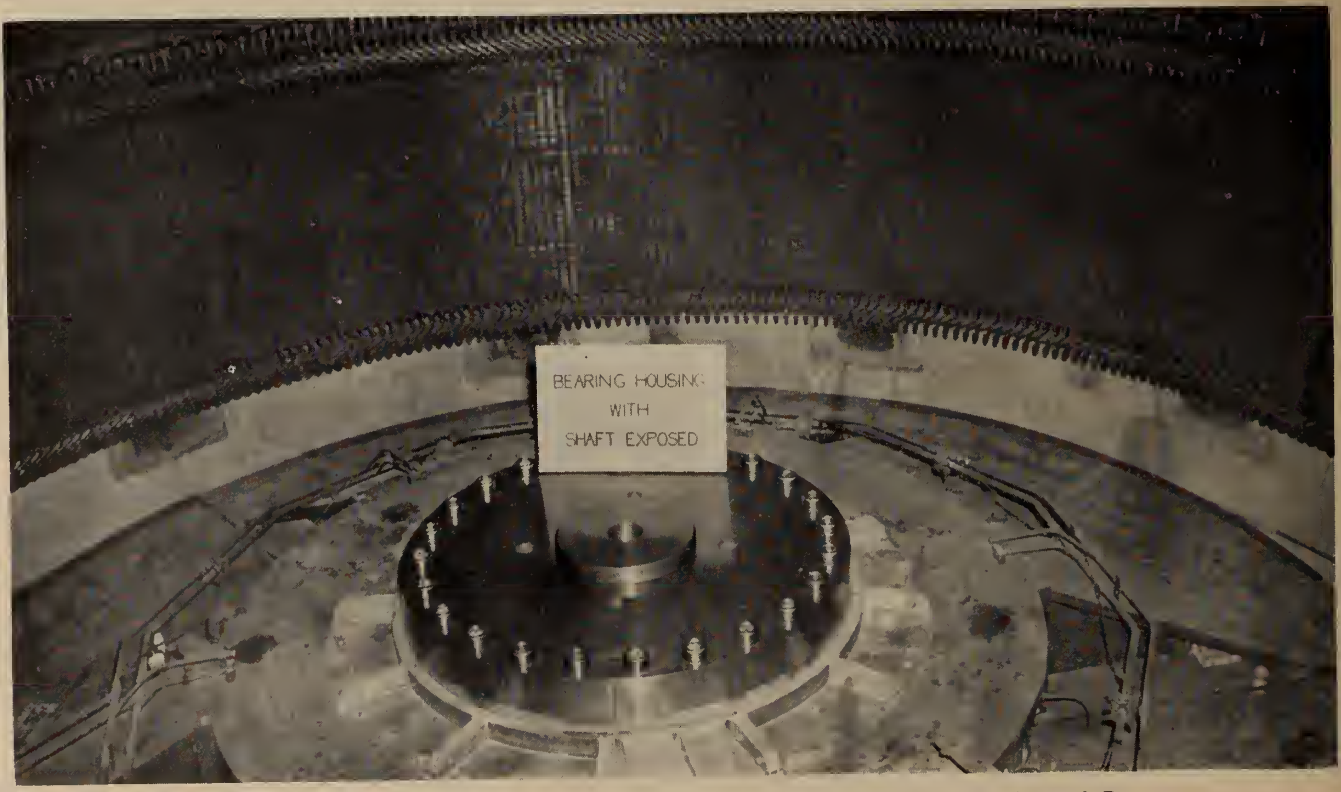
Operation Chief Joseph Dam

EARLY on the morning of September 10th representative members of the Western Washington Area Gray Fleet met at the prescheduled assembly point in Everett, Washington, for the start of an overnight camping trip and visit to Chief Joseph Dam near Bridgeport in the central part of the State. Promptly at the set leaving time, the Gray Fleet Captain started the fleet on its way, sending out each five-car unit at five-minute intervals, and the Operation Chief Joseph was off to a good start.

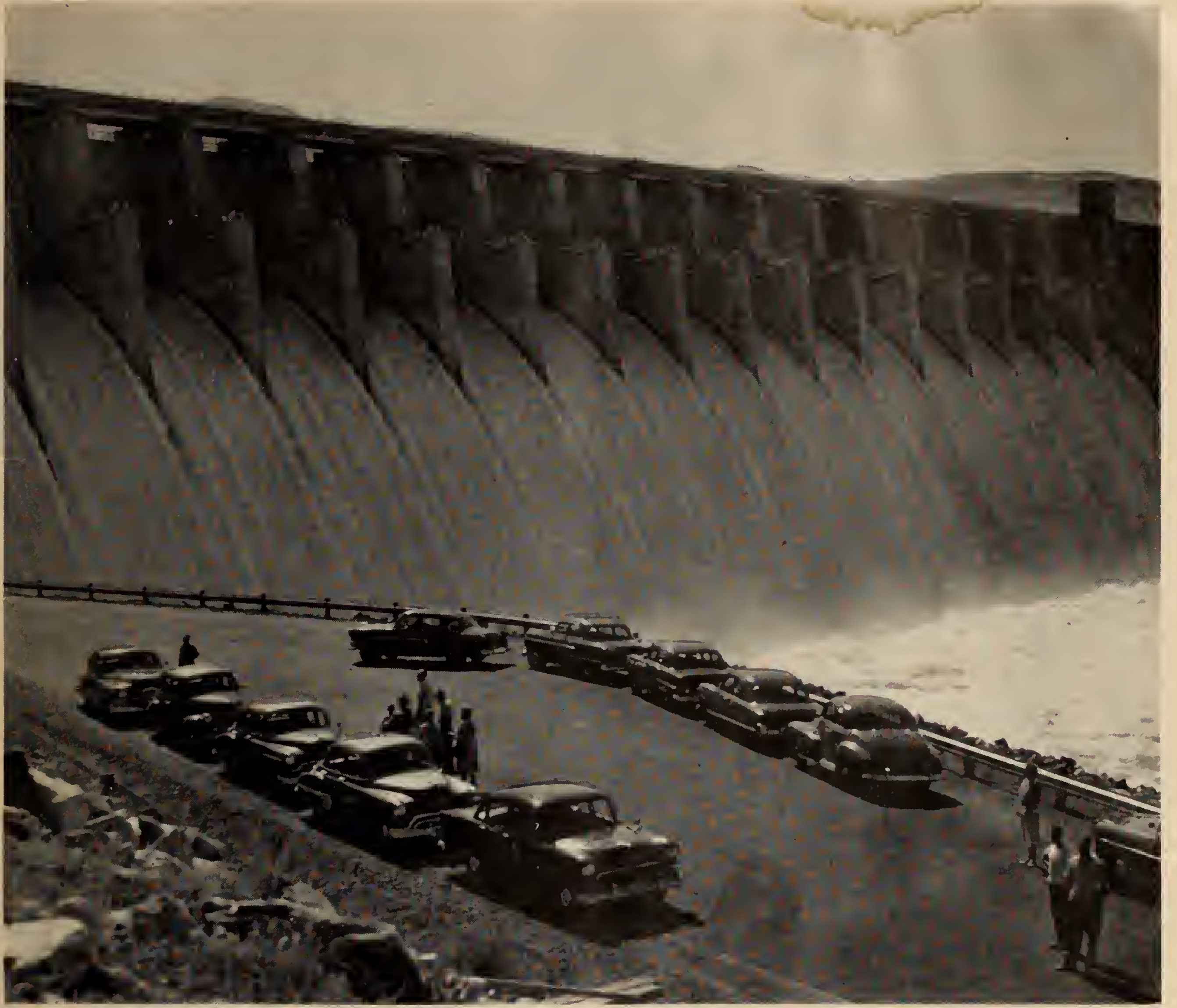
As the Fleet rolled eastward, it attracted much public attention, at rest stops, lunch time, and driving through the towns along the way. By mid-afternoon the Fleet arrived at the Alta Lake State Park and immediately began setting up their overnight camp. Here they were joined by members from Spokane and Trail, B. C.

The trip to the dam was indeed the highlight of the operation and began officially when the Superintendent of Operations conducted the long line of official Technocracy Gray cars on the tour around the dam on Sunday morning. Chief Joseph is the

Lunch-time at Alta State Park in Northeastern Washington



Bearing housing of one of 27 generators which will soon be in operation at Chief Joseph Dam



More Gray Cars being conducted by Corps of Army Engineers around lower viewpoint.

largest straight power dam in the United States, with a planned installation of 16 turbines and 16 generators initially, with 4 more to be installed in a second complement. Ultimately there will be 7 more units added, totalling 27 turbines of 100,000 horsepower each, and 27 generators of 64,000 kilowatts rated capacity each. It will rate second only to Grand Coulee whose rated kilowatts is 108,000 for each generator.

It was a rare opportunity and a privilege to be conducted through this dam by members of the Corps of Army Engineers and shown the powerhouse with 9 units in different stages of construction. Power plants of this magnitude are not being built every day and individual citizens cannot view the step by step construction as a rule; and once completed, a power dam presents a smoothly operating face and no one can know the skill, planning, and technology required to bring it to its ultimate stage of completion and fine functioning.

These units were seen in various stages of completion from the deep concrete wall of one unit, through various steps of assembly to the unit awaiting installation of its rotor, and of course, the three units already in operation. The huge rotor was in the power house ready for placement in its particular well, weighing 295 tons, it was to be lifted by two enormous cranes of 165 tons capacity each and moved into its position. With only ¼-inch clearance around the 41-inch diameter shaft, the two sections of which weigh 100 tons, when operating, this rotor will make 100 revolutions per minute. The sheer size and skill in assembly of these generating units of a modern power dam are mute evidence of the achievement of American technology.

The dam is 230 feet high from bedrock to the top, and at the time of the visit, there were 650,000 gallons of water per second going over the top. One of the most important functions of this dam has been in operation for some time now, and that is the regulating of the flow of the river itself . . . doing a better and more even job than the old river did herself before the dam was built.

It was told with pride that every phase of the construction and installation at Chief Joseph has been ahead of schedule. Scheduled to have power on the line by the first of September, the big dam actually cut in the first three generators and began delivering the 'goods' on August 20th. (It was announced in mid-November that the fourth generator went into service at that time, and that is the one unit most nearly completed at the time of the Operation.) All schedules have been broken, and the dam was ready for dedication in September.

It was well past noon when the Gray Fleet returned to the overnight camp site at Alta Lake; and after a big Sunday dinner, the Motorcade broke up, the units to make the long trip, individually, back to their various homes West of the Cascades.

Carefully planned by Section 1, Regional Division 12247 of Everett, Washington, supervised and coordinated by Western Washington Area Gray Fleet, Operation Chief Joseph Dam was efficiently executed and brought to a successful close. Members who participated in the endeavor agreed that it was a fine operation, giving as it did, the opportunity to publicize Technocracy, to try out on a long trip the Unit method of Gray Fleet movement, to test the mobile kitchen method of food preparation for large groups of people, to gain first-hand knowledge and information of a huge technological installation, and to have fun and relaxation . . . all these over one brief week-end of activity.

—Florence E. Huntting, 12247-1

TECHNOCRACY

North America's Only Social Dynamic

WHAT?

Technocracy is the only North American social movement with a North American program which has become widespread on this Continent. It has no affiliation with any other organization, group or association either in America ro elsewhere. The basic unit of Technocracy is the chartered Section consisting of a minimum of 50 members and running up to several hundred. It is not a commercial organization or a political party; it has no financial subsidy or endowments and has no debts. Technocracy is supported entirely by the dues and donations of its own members. The widespread membership activities of Technocracy are performed voluntarily; no royalties, commissions or bonuses are paid, and only a small full-time staff receives subsistence allowances. The annual dues are $9.00 which are paid by the member to his local Section. Members wear the chromium and vermilion insignia of Technocracy — the Monad, an ancient generic symbol signifying balance.

WHEN?

Technocracy originated in the winter of 1918-19 when Howard Scott formed a group of scientists, engineers and economists that became known in 1920 as the Technical Alliance—a research organization. In 1933 it was incorporated under the laws of the State of New York as a non-profit, non-political, non-sectarian membership organization. In 1934 Howard Scott, Director-in-Chief, made his first Continental lecture tour which laid the foundation of the present Continent-wide membership organization. Since 1934 Technocracy has grown steadily without any spectacular spurts, revivals, collapses, or rebirths. This is in spite of the fact that the press has generally 'held the lid' on Technocracy, until early in 1942 when it made the tremendous 'discovery' that Technocracy had been reborn suddenly full-fledged with all its members, headquarters, etc., in full swing!

WHERE?

There are units and members of Technocracy in almost every province in Canada, and in addition there are members in Alaska, Hawaii, Panama, Puerto Rico and in numerous other places with the Armed Forces. Members of Technocracy are glad to travel many miles to discuss Technocracy's Program with any interested people and Continental Headquarters will be pleased to inform anyone of the nearest Technocracy unit.

WHO?

Technocracy was built in America by Americans. It is composed of American citizens of all walks of life. Technocracy's membership is a composite of all the occupations, economic levels, races and religions which make up this Continent. Membership is open only to American citizens. Aliens and politicians are not eligible. (By politicians is meant those holding elective office or active office in any political party.) Doctor, lawyer, storekeeper, farmer, mechanic, teacher, preacher or housewife—so long as you are a patriotic American—you are welcome in Technocracy.

GLOOMY FORECAST

NEW YORK—According to Prof. H. J. Muller, a Nobel Prize winner in medicine and physiology in 1946, the human race will have little future after a thousand years or so unless it begins to take the facts about genetics seriously. He has expressed his views in The Scientific American. Sketchily given, they are as follows:

The genes contained in the germ cells, which convey all inherited characteristics, change or "mutate" at a very low rate naturally. The individual bearing them may die prematurely or they may lessen his fertility—or they may have their effect in his descendants. But nature has established an equilibrium. The race has, after all, increased its numbers and the quality of its members has improved steadily.

Remarkable advances of medicine and sanitation have disturbed nature's equilibrium, too, Muller said, because individuals who in a more primitive society would have died young now live to pass on those harmful genes.

The reservoirs of harmful genes in the human race as a whole are increasing. Dr. Muller, who is professor of genetics at Indiana University, contends that the end of the road a thousand years from now could be extinction unless those persons "who were relatively heavily loaded with genetic defects would consider it their obligation to refrain from transmitting their genes."

—United Press

TV TEACHING TO BE TESTED

ST. LOUIS—An experiment of teaching grade and high school students by television will be undertaken by the St. Louis public schools and educational television station KETC this fall.

Philip J. Hickey, superintendent of instruction of the St. Louis schools, said the experimental program may have far-reaching effects on the traditional concepts of teaching.

Three programs will be televised each school day: A 20-minute spelling course for second grade pupils; a 30-minute grammar and composition course for ninth grade students, and a 30-minute course in science for high school classes.

A grant of $95,110 to finance the program has been made by the fund for the advancement of education.

At least five grade schools and five high schools will be included in the experiment. At these schools, classes will receive instruction from the television programs—and an achievement comparison will be made between these students and a similar number of students in other schools.

Hickey said that "we are undertaking this experiment to determine whether or not certain educational processes can be given by way of television to large numbers of children more effectively than ever before thought possible."

He added that with the current severe shortage of teachers throughout the country, this experiment could have a nationwide effect.'

—I. N. S.

Statement Required by the Act of August 24, 1912, As Amended by the Acts of March 3, 1933, and July 2, 1946 (Title 39, United States Code, Section 233) Showing the Ownership, Management, and Circulation of

The Northwest Technocrat, published quarterly at Seattle Washington, for January, 1956.

1. The names and addresses of the publisher, editor, managing editor, and business managers are: Publisher: Section 3, R.D. 12247, Technocracy Inc., 2208 Eighth Avenue, Seattle 1, Washington. Editors: George Kellogg and Harry Briggs, 2208 Eighth Avenue, Seattle 1, Washington. Business Manager: Rina Corcoran, 2208 Eighth Avenue, Seattle 1, Wash.

2. The owner is: Section 3, R. D. 12247, Technocracy Inc., 2208 Eighth Avenue, Seattle 1, Washington. No stockholders.

3. The known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: None.

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International Dead Cats

Since the end of World War II, the United States has been buying friends and allies around the world with dollars and armaments. But we have no international policy other than 'containment' of communism and the promotion of American business enterprise. Now, as we are compelled to retreat from one position after another, the international dead cats we have been leaving around are being tossed back into our own front yard, and we are howling about it. It will take more than White House sermonettes to obliterate the stench.

THE NORTHWEST Technocrat

APRIL '56

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No. 183 (Vol. XX)

25¢

Sec. 3, R.D. 12247
TECHNOCRACY INC.
Seattle, Washington

Lies or Stupidity?

THERE IS MORE concern being expressed about the impact of technology upon the labor market and the Price System in North America than is known to the general public. On October 24, 1955, Secretary of Labor James P. Mitchell appeared before the Subcommittee on Economic Stabilization, according to 'The Labor Market and Employment Security' for December, 1955, published by the Bureau of Employment Security.

Secretary Mitchell presented a discussion of automation, the refined industrial control process which eliminates the use of workers in many routine, repetitive jobs. Mitchell attempted to placate increasing concern over the effects of this new technology upon the jobs of millions of workers. He tried to compare the revolutionary technological advances of today with the relatively slow changes of yesterday, using this poor comparison and the fact that the earlier transition was made as the basis for assurance that there will be no severe readjustment problems in the future.

Impressive statistics were cited to try to prove that, while a worker may be displaced in one job, he has been able to move to another and that the degree of his skill has increased. While this assertion may contain a grain of fact, applicable to a minority of the working population, Mitchell failed typically to bring into account that the industrial expansion of the U. S. since World War I has been on the basis of a vast debt creation ranging from war through installment buying which has provided jobs for millions of workers. Now, ten million American families are reported to have exhausted their credit, with millions more approaching that state. A 'good old' manpower-consuming, resource-consuming, time-consuming land war does not appear to be a favorable prospect.

What is going to happen to the technologically displaced worker from now on? Says Mitchell, 'We can expect to see increased demand for workers with a high sense of responsibility and versatility, for mathematicians, engineers and technicians of all sorts, for scientists and researchers. The worker of the future will require better basic education and better training than he gets now.'

But demand for workers of this nature automatically excludes the great majority of employables, because they do not possess either the necessary aptitudes or the general learning capacity to contribute significantly to the operation and development of industry in this age of technology! Mitchell doesn't know or failed to mention this, too.

The people of North America are confused. They don't want a job. They want an income. Technology is doing more than disemploying workers; it is creating an abundance which we shall have to use without working very hard for it. This is the issue—the real problem to solve. Whether the leadership of North America is lying or stupid about this problem is of little moment. To continue to listen to them will be fatal to this Continent. Technocracy, with no axe to grind, is ready with the necessary answers. And you can depend upon them.

—Editorial Board

COVER PICTURE

POWERHOUSE AT GRAND COULEE DAM

This picture was taken from an overhead crane in the interior of the left powerhouse at Grand Coulee Dam in Eastern Washington. These nine generators (each rated at 108,000 KW) capture the energy in falling water and convert it to hydro-electric power for the cities and industries of the Pacific Northwest. If you can find him, there is a man at a desk just past the second generator to the left by the wall. This will give you an idea of the immensity of this power house.

(Photo courtesy Bureau of Reclamation)

APRIL 1956

THE NORTHWEST
Technocrat

The Cult Of Respectability

To the person with a sense of social responsibility and personal integrity, there can be no pride in his achievements and acquisitions within the Price System. At best, they constitute a facility for survival and relative comfort over the period and through the process of social transition. The heritage of the people of North America is vast, and they are pikers if they sell it out for a few Price System bangles.

DURING the late 1920's and through the 1930's, the people of North America had a sense of social desperation that challenged their intellects and stimulated an urge to action in a collective sense. They found themselves living on the richest Continent of the earth, with the most highly developed technology and a surplus of food production; yet, many of them faced poverty, hunger, and uncertainty. They were beginning to question the old social values. Unfortunately, they displayed scarcely any more coordinated direction than a handful of fleas on a hot stove, tending to jump in all directions. But, at least, there was a demonstration of social consciousness and initiative, although, admittedly, most of it was generated by external circumstances. The liberal and leftist political parties attracted many; then, there was a variety of welfare cults, with an emphasis on pensions for the old folks, which gathered in many members. The significant thing was the way the people were setting aside the old values and aspirations of the Price System and were feeling around for new ideas.

The venerable institution of 'capitalism' was under heavy criticism; even the ministers of the gospel had stopped saying nice things about it. College instructors could speak semi-affectionately about collectivism and socialism and, although the wealthy businessmen on the governing boards did not approve, they did not call such 'leftists' before an inquisitorial loyalty board nor arbitrarily fire them from their jobs. (That behavior was to come later.) They merely had their wives circulate 'hints' through indirect channels to your wife. Foreign intellectuals, even communists, could come to this Continent and give public lectures; and (usually) the American Legion stayed in the background and Catholic youth organizations refrained from mob violence. For a while, a large number of North American citizens relaxed their struggle for personal respectability and began thinking of a new and better social order. In fact, among large segments of the population, classical notions of respectability were going out of fashion.

During the Great Depression, the problem facing millions of individuals was the problem of survival, not the problem of becoming elegant. Of course, that new WPA-constructed privy in the back yard may not have been your number one choice for that kind of facility; but, chances are, it was an improvement on anything your ancestors had ever had. So, if you were short of shekels, you settled for the WPA job and forgot about the shiny indoor facility with the chrome metalwork, the white enamel surface, and the pearl luster seat.

Then, in the course of events, our politicians got us into World War II, and there was a job for almost everyone. Of course, if you had ever been arrested for bootlegging or something like that, you weren't permitted to work on any of the lush war jobs, but you could still get drafted and be sent to the war zone. On the whole, money created out of nothing began to flow freely, and everyone was out to get his share of the 'gyp.'

The Northwest Technocrat is published quarterly by Section 3, R.D. 12247, Technocracy Inc., 2208 Eighth Avenue, Seattle 1, Washington. Entered as second class matter July 11, 1949, at the Post Office of Seattle, Washington, under the act of March 3, 1879. Subscription rate is $1.00 for four issues. Single copy 25 cents. Continental Headquarters of Technocracy Inc are located at Rushland, Pennsylvania. Entire contents copyrighted 1956 by Section 3, R. D. 12247, Technocracy Inc.

Many who had agitated for a new social order, earlier, were in the war effort with the rest of them, working overtime and collecting overtime pay; unless, of course, you were a recruit in the Armed Forces, then you just worked overtime. There was still much talk of the brave new world that would be created after the war, when fascism would be defeated and human beings could be decent again. Many a former advocate of a social 'cause' promised that he would devote himself to the war effort and save his money until the war was out of the way; then, he would give full time to the 'cause' and really do a job. It was a good line and, maybe, it was sincerely meant—at first.

With the war over, there were lush business profits to be made; and almost everyone with some money saved up decided to go into a little business for himself. Now, the line of the former dissenter became, 'Let's get in the trough while the getting is good and pile up a fortune; then, we can do a double-barrel job of working for Utopia.' If the little business endeavor failed, as most of them did, the matter of survival became a full-time struggle. But, if the job or enterprise prospered, the erstwhile Utopian argued that, before going to work for the New Order, maybe he should get used to living in 'Utopia' first, just to see how it felt. So a new home in the suburbs became an urgent item on the agenda, also a shiny new car, then television. The wife and children cooperated wholeheartedly with this new trend. The man's former 'radical' tendencies became an embarrassment to the wife and kids (teenagers or older, now), and the 'old man' was held in a sort of contempt. Before long, the man himself began to wonder if he had really shown good sense in thinking about a new society at all. Then, he probably joined one or more 'accepted' clubs, started attending church more regularly, and began fraternizing with the fellows with plenty of front but no ideas. He was on the way to becoming respectable.

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Printed in U.S.A. by volunteer and union
labor on Technocracy's own press

Perhaps it was the woman, and not the man, who had the 'radical' background; or perhaps they were both in it together; or, possibly, the whole family had been active. It made little difference; the end result was the same. The last feeble effort to pretend that the old 'fire' was still there, albeit quiescent, came with propounding this line: 'Well, I guess I had better "lay low" and plug along with the crowd until the children are through school and married, so as not to embarrass or handicap them; then, I can get in and pitch again.' The spark died out completely with this final gasp: 'If I only had the vitality of twenty years ago, I might do something about it; but I figure I've done my stint, and it's up to the younger generation to carry on, now.' Thus, the radicals and utopians of the 1920's and 1930's threw up the fight and joined the Cult of Respectability. Their greatest thrill in life now comes from watching the '$64,000 Question' on television and talking it over with the neighbors afterward.

Problems More Desperate

The old social order remains, its fundamental problems unresolved and getting more desperate. Respectability has been bought with borrowed money and squandered resources—not just ordinary old-fashioned respectability, mind you, but chrome-plated, gold-trimmed, double-polished respectability. Please don't get the notion that we are advocating any kind of 'return' to the good old days, with the two-holer in the back yard and a Model T sheltered in the harness shed. But what intrigues us is the inversion of values that has taken place in the past dozen years. Why the great urgency to clean up the little stinks in the back yard while the really big stinks out front are allowed to putrefy?

The political system smells as bad as ever, or worse. Business is more greedy and corrupt than ever. Arbitrary authority is getting more intolerant and negative. The incentives that lead to war and possible annihilation are allowed to flourish.

Any objective appraisal of our resource and energy problem compels us to realize that, for the future, we must cut costs and curtail wastage. Are we attempting to do either? No. The ballyhoo artists in business and politics are issuing tons of illustrated brochures, promising ever greater and more grandiose waste and extravagance. A huge increase in the population is envisioned with delight and the future consumption of resources is presented in fantastic figures.

Yes, it is nice to be equipped to move your bowels in comfortable and pleasant surroundings; but, if you are going to let that accomplishment alter your social outlook to the extent of your desiring personal respectability in the Old Order of things, then, it is questionable whether the indoor gadget is a worthwhile asset.

Folly of Hypocrisy

We Americans do not protest too much when our young men are recruited into the Armed Forces and sent overseas to participate in slaughter, mayhem, and arson, under filthy and uncomfortable circumstances, primarily because there are millions of dollars of invested values at stake, albeit owned by only a few corporations and millionaires. That kind of 'roughing it' can be made to appear patriotic. But when it comes to facing the internal battles at home, we must 'lie low' and appear respectable so as not to embarrass the young folks with ideas or expose them to the hardships of personal struggle. As a result, the younger generation wants to be even more respectable than the parent generation. It is, indeed, a most fitting retribution for the folly of hypocrisy.

There is no call for North Americans to be martyrs or fanatics, however. A moderate degree of integrity among those whose thinking and actions count for something is enough to shake the foundations of the Old Order. A realistic appraisal of the present situation and a sense of social responsibility among one or two per cent of the people would work wonders. North Americans can have it 'cheap.'

During World War II, many thousands of people lived under desperate conditions, fighting a partisan war against fascism. They did not have the status of formal military personnel, and they were without the benefits of military logistics. They fought desperately and ruthlessly and, when overpowered, were dealt with ruthlessly. Many of them did not have even the basic comforts normally afforded domestic animals. Their only hope was to survive until final victory, or, if need be, to die fighting for their cause. They had no Cadillac convertibles, no ranch-type houses in the suburbs, no wardrobes of fashionable clothes, and no easy job with a weekly pay envelope. That their sacrifices and efforts were later to be scorned by the leaders of many of the countries they fought for, once those countries were out of immediate danger, does not detract from their valor.

That kind of struggle is not demanded of Americans, certainly not at the present time. But some of that same sense of desperation is needed; also some willingness to de-emphasize the super-niceties of life until the major struggle against Price System barbarism is won. While it is futile and needless to expect any American to give up, altogether, his personal comforts and interests and to act and think unceasingly in the common cause, there is still no reason for him to make a fetish of those comforts and interests, particularly if they are related to the values of the Price System. If it is within one's economic capabilities to acquire a comfortable modern house, a dependable automobile, and a number of desirable household and workshop gadgets, and to indulge in satisfying recreational activities, it is not to be deplored. The sad ending comes when this same person surveys his acquisitions with smug satisfaction and in effect says: 'For this I have compromised my integrity, abandoned my principles, and quenched the spirit of dissent.' To be proud of any achievement in the Price System is to register some degree of satisfaction with the Price System itself and to soften one's contempt for it.

Major Problems

An objective study of the trends in our society makes us aware that the fundamental problems of civilization are becoming more intense and urgent, and impresses upon us the realization that no suitable program has yet been instituted to meet them. Among these major problems are: the population problem; the depletion of mineral resources; the high energy cost of transportation and other social operations; the tyranny of ecclesiasticism, politics, and finance; the stultification of the distribution process, so that the consumers are denied full use of the products of their own area; the failure of most large areas to achieve self-sufficiency and self-containment. To these may be added the danger of ever more devastating wars and the steady mediocritization of populations.

To the person with a sense of social responsibility and personal integrity, there can be no pride in his achievements and acquisitions within the Price System. At best, they constitute a facility for survival and relative comfort over the period and through the process of social transition. The heritage of the people of North America is vast, and they are pikers if they sell it out for a few Price System bangles. However, if a Cadillac comes your way, take it. If a swank penthouse apartment or an estate in the country is yours for the taking, so much to the good, if you can 'absorb' them. It is what they represent to you that counts. If you can accept them and still feel contempt for the system that provides them, congratulations! But, if you acquire along with them a feeling of satisfaction with the Price System and of loyalty for it, you have sold out your own heritage too cheaply and you have betrayed your social responsibility.

Ignorance and Faith

Most North Americans have been successfully conditioned to the values of the Price System. Out of ignorance and faith, they accept the system as if it were the 'will of the gods'; and they blame only their own lousy luck if it does not pay off as well as they would like. But these are not the people who count for much in the destiny of the Continent. Only if they should become aroused somehow and all start moving in the same direction would they be of strategic importance; but, then, their action is as likely to be negative as positive. Otherwise, they are an inert matrix, holding the status quo in place. When they move forward, it will not be from comprehension of where they are going or from spontaneous internal initiative; it will be from some major force imposed upon them from without.

We are not dealing, here, with that **majority** of North Americans. What we are concerned with is the **minority** which is capable of pioneering a new idea for social change. This minority does some serious reading; it has some analytical comprehension of what is going on in the world; and it occasionally discusses something other than babies, ball games, and banalities. Within this minority, some are economically successful and some are in desperate circumstances, but most are more or less comfortable for the present, although a little apprehensive about the future. It is the thinking and objectives of this minority that must provide social direction for the Continent. That is, insofar as this relies upon the 'human element.'

The Primary Social Determinant

We must remember that it is technology even more than human desire that is the primary social determinant, as well as the significant determinant of the final goal. But it is equally important to remember that technology is the servant of man and man is the 'master.' While technology tends to provide its own progression and sets its own standards of performance, man still has the duty and responsibility of deciding where technology is to be applied. Man must outline the field wherein technology is to operate and advance itself. Now that society has passed the point of 'no return' with respect to technology, man's future depends on his cooperating with his technology and letting it find the answers to the problems he must resolve. And, in doing so, he must be prepared for social change. The thing about technological progress that annoys the man of traditional concepts the most is that the answers which technology develops, while highly effective, are not the ones he was anticipating. For example, who would have anticipated that the problem of the small farmer would have been resolved by eliminating the small farm?

Throughout the historical period of ancient and medieval Egypt, Palestine, Greece, and Rome, the social emphasis was placed on the development of the cultural arts; among them, politics, philosophy, priestcraft, literature, the fine arts, and social graces. The only significant technical training was in connection with the art of warfare, where there was a constant struggle for supremacy between the builders of siege-proof fortifications and the designers of ever more efficient siege devices, between techniques and devices of offense versus those of defense. Other than this, technical skills were mainly used in the building of palaces, cathedrals, and tombs. Agriculture and transportation (other than military) remained virtually without technical improvement over many centuries. Scholastic education was devoted entirely to the cultural arts—the so-called humanities. The Dark Age of Europe was a natural consequence of such an emphasis. Yet, there are many prominent leaders today, among them men high up in government, education, and religion, both in the United States and Canada, who are protesting against the present emphasis on technical training, as small as it is, and who claim that the future welfare of mankind demands more attention be given to training people in the cultural arts, the 'humanities.'

In the past, respectability has appeared in the robes of the cultural arts. The summit was achieved by the political, ecclesiastical, and financial noblemen who could display grandiose dwellings, elegant clothes, liveried transportation vehicles, and a retinue of servants. Technical men were accorded only some lower rank of social distinction, if indeed they were not actual slaves.

Those same values have carried over into the present day. The technical men of science and engineering are regarded as some sort of hirelings, to do the bidding of the 'respectable people'; but they are not to be trusted with much say in social policy matters.

The Criterion of Function

The time has come to reverse the old order of things. The technical men must assume control of the social mechanism and operate it according to technological principles. At the same time, the cultural arts must be de-emphasized and reduced in rank and respectability to subordinate and superficial efflorescences on the technological setup. The criterion of function, necessarily, must have first consideration in a technological age. The first question to be asked about a device is, 'What is it to be used for?' After that, and subordinate to it, the questions about appearance and pretense may be entertained. For example, an automobile is a functional device to be used to transport people and materials. After the technical requirements of load capacity, durability, speed, and efficiency have been met, such matters as color, polish, decorations, and upholstery may be considered, with the stipulation that they do not detract from the functional aspects of the automobile. When a car has three times the horsepower rating that it requires merely for prestige purposes, or when it consumes three times as much fuel as is necessary, or occupies much more space than it needs to, or consumes scarce materials merely to produce an effect, then it is time for the humanities to be subordinated to the technicalities.

North Americans have a big job to do on their Continent. In the doing of this job, the old values must be dissipated in the process of establishing new standards of function. It is easy, if one has the means, to fall prey to the lures of the Old Order. On the other hand, it takes more courage to display contempt for the Old Order and promulgate the principles of a New Order. The guardians of the Old Order are jealous of their values—their symbols of respectability. So long as the institutions of the Old Order are in command of social affairs, the pioneer of the New Order will not have an easy time of living with the neighbors. His personal problem is one of living in, but not for, the Price System. He must play the Price System game insofar as his personal survival and essential comforts are concerned; and, due to his past conditioning, he will probably find most of his amusements and escapisms within that system. He also has the problem of maintaining formal legitimacy within the system.

The failure of the social pioneer comes when he decides to seek a status of respectability in the Old Order. The only valid excuse to do such would be to gain entrance into the inner chambers so as to be in a better position to do termite work on the system. One of the greatest personal failures of our time is that of Clement Attlee, former Labor leader of Britain, when he accepted an earldom and a seat in the House of Lords. There are a great many similar personal failures among those of lesser prominence, on this Continent as well as elsewhere. The social pioneer's success and glory comes from remaining a 'rebel' to the end—a dissenter against the values of the Old Order and, at the same time, a positive proponent of a New Order.

He who must find personal satisfaction in Price System respectabilities, who must keep his retreat bridges intact, and who must protect his progeny from personal struggle and social ostracism — he who desires to retain his membership in the Cult of Respectability—is not yet ready for a position of trust in the cadre of the New America.

Technocracy Intact

Technocracy is the one organization that has consistently supported a technological design of social operations on the North American Continent. Because of its basis on realities, its integrity, and its consistency of purpose and direction, Technocracy remains with the job, its organization and membership intact, while most of the movements for social reform are 'gone with the wind.'

Technocracy has a place and a job for those citizens of North America who are ready to take a positive stand and stick it out. But, once you join Technocracy, your status in the Cult of Respectability will be suspect. So, what do you care? The place is cluttered up with respectable people who have nowhere to go. That is one of the worst handicaps under which our society is forced to muddle along.

What this Continent needs are more people with a hearty contempt for the ennui and regimentation of respectability, along with some of the rugged fortitude and daring of pioneers—this time, pioneers of a new social order of technological abundance. Are you qualified?

—Techno Critic

PHILOSOPHY OR SCIENCE

The scientific interpretation of nature has evolved slowly from small beginnings and has accelerated until, today, much of the human life on this planet depends on the employment of the scientific method for its very existence.

IF A PERSON were to inquire, 'How can I know and understand this world I live in?', it would be well first to acquaint him with the methods that have been used to this end to date and with their results. Efforts to understand one's environment can be classified into two categories, the philosophical and the scientific.

Usually the scientific method is regarded as just another philosophy. In a sense this is justified because philosophers from earliest times down to the present have been attempting to find a better explanation of what the cosmos is and how and why it got that way. Scientists are attempting also to find the answers to such questions. The essential difference between science and philosophy is that science has given us results. With science we can manipulate our environment. Also, we are gaining through science an insight into affairs that even the wildest philosopher could not imagine. So it has become obvious that by its nature science cannot be classed with axiology or philosophy.

The philosophical types of effort to understand nature are multitudinous, including all the various interpretations of nature since man could conceive of an environment larger than his immediate surroundings.

In primitive groups, the person with sufficient imagination to invent an explanation for some phenomenon soon found, no doubt, that his invention was more readily accepted if he 'dressed it up' a bit. Here we have the first witch doctor. We can guess with more than a little justification that in getting his invention accepted, the witch doctor enjoyed more prestige and an easier life, consequently it would be to his advantage to discourage possible competitors by any means available and to 'dress up' his act even more until he became an accepted institution. Later when society became organized to the extent where it was possible for the witch doctor, the tribal chief and the community business man to conspire together to maintain their positions, we see an example of a type of political control that blossomed in modern times into what is known as fascism.

It has almost universally been held by those who control the destinies of peoples that 'too much' knowledge is bad; it upsets the established order and ruins the prestige of the ones who presently are harvesting the tribute and taxes. Those in power hit upon the idea that if they could convince the people whom they controlled that the prevailing deity had given them special powers and, even further, had transformed them into supernatural agents, then it would be even easier for them to gather the harvest of tribute. Thus was born the idea of the 'divine right of kings and popes.'

It is ironic that the church which today is responsible for much of the obfuscation of science is the organization which was the repository of much of the early learning. The monks of the Roman Catholic church were the learned men of that day; they had the time for reflection and experiment and the advantage of the only education available. Mendel, who first discovered the laws of heredity, was such a monk. Probably the reason that the church sponsored education was partly due to the awareness that a learned man could wield a power over his subjects by the exercise of knowledge, real and fanciful, in much the same manner that early travelers exploited the superstitions and fears of primitive tribes by the use of tricks of chemistry or sleight-of-hand.

Intrusions into the monopoly of the established philosophies have from time to time caused a minor flurry of rebellion and were either rudely quelled or adopted into the philosophical system. Conflict based on the idea that all others holding differing beliefs must be eliminated to preserve the sanctity or to please the whim of gods and spirits has existed from the first.

It should be quite easily seen why anyone coming along with an idea that the world is round or that the world travels around the sun would be 'given the works.' Anyone with such ideas could easily be the ruin of the leaders of a society. He might form a new Philosophy around his new idea and nullify the old ideas; at the very least, his idea would upset the monopoly of prestige and worship.

Accepted ideas are comfortable; it was, no doubt, rather terrifying to have someone claim that he could prove that the very platform we live on is traveling at a terrific velocity through space instead of being a stationary and dependable place to live on. The idea that this world is only a planet in a system of planets reduced man in importance, because it had been thought that the world was the very center of the universe and that man deserved this central position because he was created in the image of God.

Opposition to New Ideas

So from every side opposition to new ideas has always been the rule. Indeed, we have a heritage of arguments against the findings of science. Among these are the arguments that science is cold and unfeeling and that knowledge is dangerous unless the holder of such knowledge subscribes to, or more preferably, is an authority in, the prevailing philosophy.

It is usual for people to be surprised when they find out that given enough food to eat and with no competition for comfort all people (except pathological cases) are inclined to get together for the fun of it. This is not to say that competition and conflicts don't exist: a certain amount of it happens spontaneously and naturally. It turns out that when we study the fundamentals of human behavior, we do not find that man is intrinsically 'evil,' nor for that matter intrinsically 'good' either. Man is a physical organism with a nervous system that is susceptible of scientific study. We can determine quite closely what the behavior of people will be in a given environment. It is comforting, isn't it, that we know there are psychologists who can help us guide our children toward a better adjustment with society? And would you call the work of a surgeon cold and unfeeling? Certainly not. His is a functional role. While he must strive to be unemotional, the objective of his effort is your better health.

The Reason for Scientific Effort

Now, about the idea that knowledge is dangerous. The fanciful 'mad scientist' theme has had a ready acceptance and has been given wide circulation in our literature and movies. Yet when we think on it a little we can see that the reason for scientific effort is to enlarge man's control of his environment. Pure research yields information that can be put to use by anyone. The discoverer of new information has no clear idea, when he begins his investigation, of where his studies will lead him and he doesn't particularly care. What he wants is the distinction of having contributed something to the storehouse of knowledge. Applied research in specific fields is financed by governments—mostly for the purpose of gaining political power, or by industry for the possibility of getting a profit.

It is interesting to compare two types of gatherings of people. One can easily visualize the disagreement and antagonism felt in a gathering of representatives of various philosophies, say between Masons and Catholics or between Emersonian Transcendentalists and Christian Scientists, or in a gathering just of Republicans and Democrats. There is no common ground in such a gathering: they can only argue interminably. Philosophical groups when they meet can find no compatibility. Compare this with the recent meetings of scientists from the Soviet Union with the scientists of the West. There was an eagerness to compare notes so as not to waste time on something already investigated; there was an eagerness to hear of new ideas and new lines of investigation. There is no 'Western Science,' no 'Russian Science'; there is only one science and it is universal; it is the only common ground that exists in the objective intercourse between the world's peoples. It is the only common denominator or relationship among the people here in North America.

Dependency on Science

The scientific interpretation of nature has evolved slowly from small beginnings and has accelerated until, today, much of the human life on this planet depends on the employment o f the scientific method for its very existence. Yet philosophy professors in some of the more advanced of our universities and colleges are still referring to the scientific attitude as the most recent of the many steps man has taken on his long path toward ultimate wisdom. They very academically take students from Plato and Aristotle through Hume and James to the scientific attitude. Let us remember, however, that boards of regents are a big influence in universities and that they are politically appointed. What can we expect from those who must seek to please politicians in order that they can continue to receive a salary?

It goes without saying that most church controlled educational institutions (so-called) must of necessity banish from their curricula any teaching of how society can be regulated by the methods of science. They were organized in the first place to promulgate the idea that their brand of philosophy can cure the world's difficulties.

A course in psychology at a Catholic university will give one an idea of how far we can be led from what is known and demonstrable. Much time is spent at the first of the course instilling the idea that human behavior stems from the 'driving force' of the 'soul,' and all subsequent teaching is based thereon.

The idea of 'soul' is a philosophic construct. Now it happens that constructs are definitely useful, but we must remember that a construct is only a name for a set of phenomena which are somewhat difficult to pin down separately. For instance, Freud invented several constructs. He is remembered for having fathered Libido (sex drive), Id (fundamental drive to preserve self), Ego (the awareness of self), and Super-ego (conscience).

No scientist today would conduct an experiment in human behavior and then arbitrarily say that the results were caused by the 'Super-ego' or the 'Libido' although such terms were useful once in giving researchers a beginning place in the study of human behavior. Today, progress has been made and we can talk of more explicit behavior characteristics such as the Conditioned Reflex which is a specific phenomenon and can be demonstrated.

Inconsistency and confusion are more the rule than the exception, especially here in North America. Now, more than at any other time in the past, the conflict between dogma and science is taking its toll. With a language full of philosophic constructs, with an environment filled with the results of science being regulated by charlatans and zealous defenders of outworn ideas, and with uncertainty, insecurity and a cut-throat competition for existence ever-present, is it any wonder that over half our hospital beds contain mental patients? Our society is in a state of transition. It is about as far as it can get from the old socially steady state wherein change, if it occurred at all, occurred at so slow a rate that there were well established and respected rules of behavior and lasting relationships and where it was possible to plan one's life far in advance with a minimum of unforeseen upsets.

Where Are We Going?

Where, then, are we going? Out of this hodgepodge of change will science finally emerge as the motif of all human interaction? Will we continue to go through change as an evolutionary sort of process, or can we expect a climax and abrupt change? And where can one expect to find the answers to the above questions? Science is the only method of acquiring physical results in a physical world. The above questions pertain to this physical world, so let us see what science has produced in this respect.

One of the most difficult points to appreciate fully is the social effects of the practical application of science in the form of technology. This application of technology has transformed the civilization of North America from an agrarian to a highly industrialized society. In the process, most of our social ideas have been rendered obsolete.

Every civilization to this time has rested upon human sweat and hand tools. Now technology in many forms is relieving the human being of toil and is creating an abundance. This unprecedented development has left us at sea, so to speak, in dealing with our problems.

Inasmuch as science is directly responsible for this new social situation in which we find ourselves, out of science must come the perspective to deal with it. It is with full appreciation of the new circumstance described that this problem was approached by a group of North American scientists, engineers, and statisticians and the ensuing study was to become an analytic and synthetic body of thought.

In 1918 this group of scientists and engineers had become sufficiently curious about the effects of technology on employment to organize themselves into a scientific research group under the direction of Howard Scott. They called themselves The Technical Alliance.

The Technical Alliance was not organized to find ways and means to popularize an idea already formed. The members of the organization wanted to participate in the first scientific study of how our society operates basically; and they were curious about where their studies would take them.

The original plan was to measure and evaluate the economic and social factors in just one state, New York. It was soon found, however, that the economy of New York State was involved with the rest of the nation. The political boundary was not a limit. Indeed, it was found that the economies of all the countries of the whole North American continent were so intertwined that they must be considered as a unit.

The task was undertaken on this much larger scope and was to last nearly 15 years. Many people were employed in the accomplishment of this tremendous project.

The inescapable conclusions arrived at as a result of the research were these:

1. The economy as now operated is by nature oscillatory and does not follow a cycle; the oscillations in industrial activity are the up and down swings from boom to depression. Research showed that these oscillations are measurable and that they increase in magnitude.

2. The time it takes to make one unit of production is a constantly declining factor.

3. The economic system in North America cannot avoid disintegration because of the growing imbalance between man-hours and production. We are able to produce more and more using fewer man-hours.

4. The only economic system that can operate in North America is a functional control wherein the abundance of goods and services produced will be distributed on a non-price basis to all citizens of the continent.

Quite a bit different, isn't it, this new method of coming to conclusions about what can and probably will be done here in North America? Certainly, it is more simple to say that what the country needs is a good five-cent cigar or more religion or less taxes. But this is not a measurement of anything, it does not tell us our direction nor about how far we have gone in that direction.

Technocracy's design is a blueprint of a functional type of social operation in North America. The specifications for Technocracy's design are: that it should provide for the production and distribution of an abundance of goods and services for all North Americans without price, and that it should do this with a minimum of human effort and a maximum of security. Here is a bigger social goal than man has ever before had the opportunity to consider.

All that is asked is that the conclusions of Technocracy be put to the test. Technocracy is easily understood, is scientific and will provide one with the basic information every citizen should possess during this critical time.

—John Berge, 12247-1

HOW WRONG CAN THE 'EXPERTS' BE?

". . . Technocracy, a plan by relatively unsuccessful engineers and related specialists to govern the nation on the basis of technical scientific engineering, an arrangement in which engineers would hold an almost dictatorial control. Among the features proposed by a prominent founder was the abandonment of gold as a basis of currency and the substitution of units of productive energy 'ergs,' which could be represented by certificates. Whatever chance Technocracy had to hold the serious interest of stable intellectuals was lost. A cartoon,* effectively lampooning the movement, circulated over the nation. A few faithful members, probably a selection of the less conventional and educated, remained with Technocracy as its headquarters were moved to Los Angeles where it remained for some years in almost total obscurity."

*The drawing showed a hen proudly crowing, 'Tech . . . Tech . . . Tech . . . Tech . . . NOCracy' as it finished laying an 'erg.'

—From "Social Disorganization" by Robert E. L. Faris, professor of Sociology, Washington University. (pp. 580-1.) The Ronald Press, N. Y., 1955.

DEVELOPING TRENDS

AUTOMATION DANGERS SEEN

WASHINGTON — A congressional subcommittee warns that the results of automation could, in future years, damage "the foundations of our free society."

The group, which studied the problem of new technical advances, praised both labor and industry for recognizing that the nation is "on the threshold of an industrial age, the significance of which we cannot predict and with potentialities which we cannot fully appreciate."

—Seattle Post-Intelligencer

LABOR LEADERS ATTEND L. A. AUTOMATION PARLEY

LOS ANGELES—Four hundred labor leaders have attended an automation conference at Los Angeles State College and were told that automation is going to create tremendous problems for labor.

Abraham Weiss, economist with the International Brotherhood of Teamsters in Washington, D. C., one of the speakers, said:

"Labor knows that automation means progress and that our economy must expand if we are to have a constantly increasing standard of living.

"Labor also knows that automation means unemployment for some; that some industries and even communities will be hard hit on the degree and rapidity of its installation and our ability to 'roll with the shock'."

He warned that the size of labor unions may decline because of displaced labor unless labor successfully organizes engineers, technicians and white collar workers in industry.

—Seattle Post-Intelligencer

—Is the size of union membership the problem here or the welfare of displaced workers?

EXPERTS SPLIT ON EFFECT OF AUTOMATION

NEW HAVEN—Social scientists, attending a conference on automation at Yale University, disagree as to how many persons will be made jobless by the mechanical devices.

Two spokesmen for private industry, Sylvia Carter of the John Hancock Mutual Insurance Co., and J. A. Littel, of the Pratt & Whitney Division, United Aircraft, said the displacement of human workers would be negligible.

But Kenneth G. VanAuken, Jr., of the Bureau of Labor Statistics, cited the example of many young women clerical workers put out of jobs by mechanical computers.

He said that in one firm only five of 198 workers effected had been able to get jobs as computer operators.

—New York Post

CANADIANS TO ASK 30-HOUR WEEK

OTTAWA, Ont.—The Trades and Labor Congress of Canada informed the government recently that it intends to work for a 30-hour week. This is necessary, according to the organization's brief presented to Prime Minister Louis St. Laurent, to avoid unemployment in an age of mechanization.

It was the last time the Trades and Labor Congress, representing 600,000 workers, would submit a brief of its own. It is to merge soon with the Canadian Congress of Labor, representing 400,000 members. The Congress is to submit its own brief soon.

— Seattle Times

—We were told unions are responsible for the shorter work week, and better working conditions, now we find out it's machines.

MACHINE WILL LAY 60,000 BRICKS IN HOUR

LONDON—An electrically operated "mechanical bricklayer," said to lay 60,000 bricks an hour, was demonstrated in Warsaw, Poland, the official news agency P.A.P. reported recently. P.A.P. said the device, operated by one person, also automatically spreads mortar and is able to build walls "of any thickness and any height."

—Seattle Times

SCIENCE NEED

CLEVELAND—The chairman of the atomic energy commission says the nation's shortage of scientists has become so "grim" that it could endanger "all of our blessings, even our freedom."

Colleges and universities are providing less than half the number of scientists and engineers the country needs, Lewis L. Strauss told the nuclear engineering and science congress.

"This figure is made more distressing by the realization that the shortage will become worse before we can possibly correct it," he added. "Soviet Russia, meanwhile, is educating twice as many engineers and scientists as we are."

As one corrective step, Strauss announced, a summer institute for the specialized training of faculty members of American engineering colleges will be opened next June at the Argonne National Laboratory, Chicago.

Sixty selected science teachers will be given a two-month course in nuclear engineering, separation chemistry, chemical engineering, metallurgy and nuclear instrumentation, Strauss said. The science foundation will provide cost-of-living allowances of about $600 for each of them.

Strauss said the nation will be "outdistanced and left behind" unless it has a large, constantly replenished reservoir of scientific talent.

—The Oregonian

—Why should any American adopt science or engineering for a career when business, politics, and entertainment offer much more attractive incentives?

SOLAR ENERGY

CHICAGO—An electronics concern has begun a study of how to operate traffic lights with solar energy.

William J. Mortimer, Cook County highway superintendent, has invited Admiral Corporation to work out a solution.

Mortimer wants to install traffic lights at remote intersections and at other danger spots where the cost of stringing power cable would be prohibitive.

Admiral has developed a radio with a solar battery that converts sunlight into electric energy. The sunlight charges the storage battery which in turn supplies power for nighttime use.

Ross Siragusa, president of Admiral, said his researchers first will determine the power requirements of various traffic signals. They then will determine whether such power needs can be met with solar energy equipment at feasible cost.

The Bell Telephone system is operating a small Georgia telephone system with solar energy.

Mortimer said solar operated traffic lights would be portable and could be used for detours and for special signaling during construction.

—Oregon Journal

—Why not develop solar energy as an economical supply of energy for a whole continent?

IMPROVED WELDING OF PLASTICS CITED

Automatic electronic welding equipment for fabricating vinyl plastics articles has been advanced to the point where today the same amount of finished goods that it formerly took a year to produce can be made in a month, according to Radio Receptor Co., of Brooklyn.

Ivan H. Schwartz, sales manager of the firm's Thermatron Division, reporting to the Society of Plastics Industry's film-sheeting and coated fabrics division, notes that this speed-up in production has been achieved while at the same time provision has been made for using only supervisory operators.

—New York Herald Tribune

—Now the vice-presidents will have to go to work! But watching a control panel isn't very hard work.

TARP USE GROWS FOR CROP STORAGE

With a growing government-owned and controlled volume of subsidized agriculture crops in storage and more due to be held against loans to farmers, or forfeited for failure by farmers for repossession, the need has grown to find additional means to store the crops. This has made it necessary to find at least temporary storage facilities to protect corn, wheat and other crops from weather hazards. The result is tarpaulins are more than ever necessary and in constant demand.

The nylon base or core fabric, combined or coated on both sides of the center sheet of nylon with vinyl layers is being used more widely, a market indicates, for protecting crops stored outdoors. This fabric when completed and ready for use comes in weights including two, four, five, and six ounces per square yard.

A number of colors are available to meet the preferences of those who have adopted these newer type tarpaulin covers.

—New York Journal of Commerce

—Now, here is a pretty way to kill two birds with one stone; cover up those shameful surpluses in grain and use up the surplus textiles at the same time.

TRENDS IN INVENTORIES AND CREDIT

New car inventories were an estimated 750,000 to 800,000 at the beginning of the year. With production running over 600,000 in January, it appears that another 50,000 cars were added to dealers' stocks during the month. This record accumulation of new car inventories is prompting production cutbacks in the industry.

Business inventories had a total book value of $80 billion at the end of September. This is an increase of $2.7 billion over last year, but is $1 billion lower than the peak registered two years ago.

Consumer spending in 1955 rose $17 billion to an annual rate of $260 billion—a 7 per cent increase. At the same time, disposable income increased only $13 billion. To meet expenditures, consumers relied heavily on installment and mortgage debt, which climbed 23 and 13 per cent respectively. Consumer credit totaled $34.6 billion in October—a $4.6 billion increase over last year. Installment credit accounted for $27 billion—$5 billion ahead of last year. Mortgage loans rose nearly $10 billion to a total in excess of $85 billion.

Business failures totaled 10,969 in 1955, second highest number since 1941. In 1954, 11,086 failures occurred. More than half—57 per cent—of the business failure were encountered by concerns under five years old. Construction firms accounted for 1,404 failures—the highest number in the industry since 1934.

—Bank Bulletin

FARMER GIVES AWAY HIS CROP

McALLEN, Texas—A. F. Sherer, a San Juan farmer, decided recently to plow under his ten acres of lettuce because of the low market price.

Sherer changed his mind and invited tourists to help themselves to free lettuce. The visitors cut an estimated 4,500 heads.

—More proof that you can't sell an abundance.

BILL OF RIGHTS "TOO DANGEROUS"

The 164th anniversary of the Bill of Rights came recently and President Eisenhower issued a proclamation calling upon Americans to observe "Bill of Rights Day" by renewing their devotion to freedom. However, the great charter of liberty in the first ten amendments to the Constitution got a dubious reception on the streets of Denver.

The Denver Post prepared typewritten copies of the Bill of Rights, in a form looking like petitions, and sent reporters out on the streets with them. They asked 100 men and women to sign these documents as a "declaration of principles." The Post then reported the results.

Only 16 of the 100 recognized the Bill of Rights as part of the Constitution. Only 33 were willing to sign it after reading it. Of the remainder, 52 were suspicious and gave the excuse that they were "too busy" to read or sign. The rest made comments like these:

"That's communistic! What Red Front outfit are you with?"

"I don't believe in any of this. If we adopted these statements, we'd destroy our entire system of democracy. Say, who are you, anyway?"

"This looks fishy," said a man and a woman.

The Denver paper recalls that "in a similar survey made in Madison, Wisconsin, only eight persons signed the Bill of Rights as "democratic principles."

—Labor

Ross Dam on the Skagit River in Washington. (Photo courtesy Seattle City Light.)

Man and Hydro-Dynamics

THERE ARE several things basic to life in any form and one of them is water. Life presumably began on this planet in the waters of the old Pre-Cambrian seas hundreds of millions of years ago. Water comprises nearly 70 per cent of the body volume of a human. Running and falling water was one of the early sources of extraneous energy used by man to power crude machinery. Water contained the food that kept many peoples alive throughout untold ages. Water was used by ancients to irrigate the first crude agriculture. Water drove miners out of the mines of eighteenth century England, but without water the first steam engine which powered the first pump to remove that water could not have been possible. Water floated the dissentious emigrants from the tyranny of Europe to the 'melting pot' of America. Water helped to transport their descendants, the pioneers, to the west and to the north across the Continent. Water turned water-wheels to power crude grist mills to grind grain, and then it turned turbines to generate electricity for factories and homes. And as the standard of living of each North American grows so grows the need for water, more and more water.

Water flows on earth because the sun shines. Heat equivalent to a quadrillion horsepower is poured constantly onto this planet, three-fourths the surface of which consists of water. Thus we have the hydrological cycle of evaporation, air motion, condensation, gravitation, precipitation, and finally, runoff. The major air currents across the land determine the reoccurring patterns of the weather. Let us trace two for examples. Great cyclonic winds or currents sweep across the Gulf of Mexico carrying large volumes of vapor. The path they follow in general goes up through Texas, swinging slightly to the east all the way to the Great Lakes and New England areas. Here the warm currents of air meet the cooler air from the northern parts of the continent. This cooler air forming a wedge flows under and cools the moisture-laden air from the Gulf and rain falls in these areas. Sometimes the two currents meet head-on and a great turbulence dumps rain day after day in a steady downpour. In another region, Western Washington in the Grays Harbor area on the Pacific Coast, occurs the heaviest precipitation on the continental United States. The annual rainfall there averages 160 inches. The winds coming in off the vast Pacific Ocean and the warm waters of the Japanese Current pile in against the western slopes of the high Olympic Mountains. Pushed upward into the cold air above, condensation takes place and record rainfall in that area is the result.

The raindrops hit the ground and gravity still at work pulls them down the slopes toward the oceans. How this water returns to the oceans is of major importance to all who live here. That branch of science called hydrology is the field that deals with water after it reaches the surface of the land and starts its trickle back to the sea.

Puny man cannot change the air currents which determine the cloud paths nor move the mountain ranges to alter the rainfall except in very, very limited ways. The natural forces can be used to great advantage but if they are not taken into account vast damage may result. Through careless use of grasslands, forests, and water itself, whole river systems may become menaces to large portions of the population in those areas.

The Determining Factor

China is the best example of what man has done to large land areas through over-use. Much evidence has been compiled to show that water loss and soil erosion may have been the determining factor in the deterioration of many civilizations. The Cliff-dwellers of Arizona, the Mayas of Mexico, and several other early American peoples practicing crude reclamation in dry areas for the purpose of growing food had to abandon the land because of drought, depletion of soil and poor farming methods. The Tigris-Euphrates basin draining into the Persian Gulf and occasionally called the 'cradle of civilization,' spewed the top soil of its many slopes out into the Gulf, forming a delta over 100 miles long within the period of historical times. The destruction of this rich area by water out of control perhaps more than any other thing caused the decline of this culture. African desert sands cover ancient cities of the old Roman Empire which had advanced into the once rich lands there to feed a growing population which had ruined the homelands. Still expanding westward and southward the Great Sahara gains one-half mile to the south annually. What man has done in regards to the water-soil resources, the life-sustaining elements, determines the condition of his culture and in the past may have been more deadly than conquest to many of the civilizations.

Use of Water

The first apparent need for water is bodily thirst. The body, containing 70 per cent water, requires an average of 8 pints per day and cannot sustain life without water much beyond 2 to 4 days. The primitive human in a savage environment needs but small amounts more than the average requirement per day. The use of water in a high energy civilization such as in the United States and Canada is an entirely different picture and has far-reaching implications. The per capita rate of water-use in most cities in the United States for personal needs alone is set at 200 gallons per day. These needs are considered the things for which you use water in your home, such as drinking, bathing, cooking, washing, shaving, laundering, flushing away excreta, and watering your lawn. In a family of five this runs up to about 1000 gallons per day. If we include the industrial uses of water that go to make up our standard of living, we find that the per capita use of water adds up to approximately 1,300 gallons a day.

For every ton of highly finished steel it takes 65,000 gallons of water in the processing. Every time you burn a tank of gasoline you have used also about 150 gallons of water, because it took that much to process the gasoline. It takes 600,000 gallons of water to produce one ton of synthetic rubber. For the pound of paper in your Sunday newspaper 35 gallons of water was used in the processing. A ton of viscose rayon requires 200,000 gallons. An estimated 200 billion gallons of water was the gross amount needed in the United States per day at the beginning of the decade. New York City was using 1,200,000,000 gallons per day in 1949. It becomes very apparent that in order for us to maintain our high standard of living it is necessary to tap our water resources quite heavily. The exploitation of water resources under the present policy (of profit first, let the future take care of itself) is fast putting us into a hole as far as usable water is concerned. This exploitation is causing water to become scarce in the face of an increasing demand. Water is like a forest; it cannot be used beyond its replacement capacity without damage. It is not inexhaustible.

The growing evidence of water shortages throughout this Continent points up the very startling fact of what we are to be faced with in the not too distant future regarding our water resources. One thousand cities and towns across the Continent have passed water restriction resolutions. Shortages are acute in the New England states, Memphis, Tennessee, and Mobile, Alabama, in Miami, Florida, and the Lake Charles area, Louisiana, in Peoria, Illinois, and Denver, Colorado. In California water is more precious than gold and the story is told of the farmer who drilled for water and got nothing but nasty old oil. The city of Los Angeles depends for the bulk of its water on the Colorado River, 300 miles away. The Southwestern area, where the San Joaquin valley contains some of the richest farmland on the Continent, is, according to latest reports, facing doom because of an abuse of ground water reserves and with no alternate source. Migration of vast numbers of people and the return of this land to desert will almost surely take place without water. A discussion will be made a little later on the use of ground water and what is happening to the water table.

Causes of Water Shortages

The ever-increasing shortage of water is caused by a number of factors. Weather cycles play a large part and are something which man cannot control. However, better preparation for drought periods could in large part be accomplished by water conservation in periods of greater rainfall. The destruction of ground cover through overgrazing of livestock is one of the major causes of fast run-off and erosion. The slashing of forests, and the clearing of brushlands, contribute also to the rush of the raindrops down the slopes to the sea.

Ground cover can be of several different kinds; grass, with its tangle of small roots, the forest, with rotted vegetation matter such as needles and leaves on the forest floor, small brush, with its litter of small twigs and larger root mats growing down into the soil. The sponge-like quality of the precious first few inches of soil is greatly aided by the myriads of insects, earthworms, and larvae burrowing little pipelines which let the water sink into the surface. Any destruction of this cover through overgrazing, slashing, or burning as in forest fires leaves the soil bare to the pounding of the raindrops. The run-off is very rapid and little of the water is caught and held to sink into the ground. As this surface water runs first into little rills then into tiny streams which empty into larger streams, it gathers silt and thus becomes even more abrasive and cuts deeper and deeper channels into the bare mineral soil. Here we are faced not only with a loss of the use of the water but also with the destruction of the soil resources as well.

The basic soil under the ground cover cannot be changed but protection of the cover can largely deter the erosion of it and hold back the water so that a slower more steady delivery of water takes place. Porous soils soak up the water while tight clay soils do not. Frozen soil also does not absorb water. However, soil with a good cover does not freeze as solidly and water is able to penetrate and soak downward. Much of the winter precipitation in mountainous regions is caught and held as ice and snow, there to lie and melt slowly and steadily throughout the spring and summer. Some runs off rapidly over the surface of the land, as in quick spring thaws, but much of it soaks and seeps into the ground to end up as small springs and creeks many miles from where is disappeared into the earth. If the strata is such that the water is led between two layers of hard soil such as clay or shale, it may be tapped in the valley of the basin as artesian wells. (America had many of these wells in the past, some with 'heads' up to 30 feet above ground level, but through over-use or tapping of the water faster than recharge could take place, most of these wells have to be pumped now.)

Causes of Floods

The destruction of ground cover on water-sheds plays the major role in many floods. True, there were floods caused by heavy precipitation before the settlers razed the forests and over-grazed the land, but they were infrequent and less destructive because ground cover was there to help hold the soil and some of the water. Rapid run-off occurs from other natural causes also such as impervious or slick soils. It is soils like these which make up the Badlands of the Dakotas. Here the bare mineral soil offers no foothold for vegetation and the water when it falls runs rapidly down the gullies and washes, wearing and cutting them deeper and deeper. However, these areas are small and of little importance. Light or heavy cover protects the areas of light or heavy rainfall in the natural balance that nature provides. It is when man destroys the natural balance that trouble begins for him. The plowing up of millions of acres of grassland has resulted in the loss of 50 million acres or more to

At the right in this picture is a citrus grove and on the left is the raw desert. This is Salt River Valley, Arizona, where the continuous flow of water must be maintained or large scale migration by the population will be necessary.
(Photo courtesy Bureau of Reclamation.)

erosion. Not only can no grass be replanted or crops raised but the land is washed by rain and flood and the silt fills our rivers and streams, our reservoirs and low farmlands.

The wanton slashing of forests, denuding the steep hillsides of the mountainous areas, has led to rapid run-off of water and sluicing of mineral soil into the once-clear streams of these areas. Damaging spring floods have become legion in the land. Experiments by the California Forest Experiment Station revealed that forest floors held an average of 13.2 times as much water as denuded areas. In some cases as high as thirty times more was held. The litter on the forest floor honeycombed by millions of little living things and further loosened by the scratching of the bird population in search of this food has an important bearing on the performance of a watershed. Forest fires are particularly damaging to an area because they leave the soil completely devoid of all organic material.

Thus exploitation of cropland, forests, and grazing land can be major causes of water loss, through rapid run-off. The falling of water tables throughout the Continent occurs because of this and points to yet another exploitation: that of ground water reserves. Ground water is that water which percolates into great underground lakes, such as huge sand beds. There it slowly filters toward the oceans or lies caught in basins. This water in some areas such as in the Southwestern states where rainfall is light has been gathering in these huge basins for centuries. In Salt River Valley, Arizona, wells were drilled to tap this water and during World War II the use was twice as fast as the recharge rate. The high prices of produce at that time spurred the farmers to use ever greater amounts. In many cases they knew they were 'mining' the water but decided to let the future take care of itself. It hasn't yet and 150,000 people will soon have to find new homes and 230,000 acres will go back to desert. The Colorado River has become the bone of contention in the mad scramble for water which many areas in the Southwest must have if they are to survive as communities. The city of Denver has reached the limit of expansion without more water. Land within the reach of city water has climbed in value to the all-time high of $3,000 per acre and up. Water from the watershed of the Colorado River is to be tapped and tunneled through to the eastern side by a huge project now contemplated but the completion date is seven years away, and the other areas will not part with this water easily.

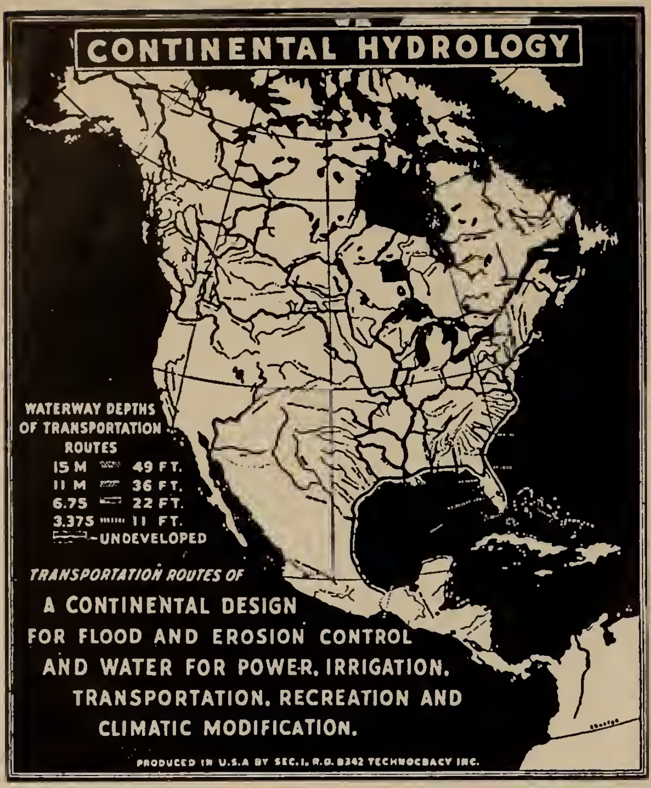
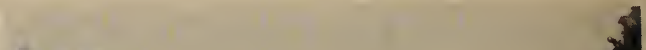

CONTINENTAL HYDROLOGY
WATERWAY DEPTHS OF TRANSPORTATION ROUTES
15 M 49 FT.
11 M 36 FT.
6.75 22 FT.
3.375 11 FT.
UNDEVELOPED
TRANSPORTATION ROUTES OF
A CONTINENTAL DESIGN FOR FLOOD AND EROSION CONTROL AND WATER FOR POWER, IRRIGATION, TRANSPORTATION, RECREATION AND CLIMATIC MODIFICATION.
PRODUCED IN U.S.A BY SEC. 1, R.D. 8342 TECHNOCRACY INC.

Chart by Technocracy

Along the seacoasts another problem in regards to water is fast becoming critical. Atlantic City, New Jersey, Texas City on the Gulf of Mexico, Santa Ana and Los Angeles in California, to mention but a few cities, have pumped so much water from the wells reaching into the ground water sands that the wells are now delivering salt water. The natural pressure of fresh water flowing toward the ocean has been destroyed and the salt water from the ocean is flowing back the other way. In Texas City wells are from 549 to 1,100 feet deep and the water level is 100 feet or more below sea level in some cases. Salt in the water of industrial plants set up for fresh water makes operation of plants impossible in some areas. Nor can the water be used for irrigation. Some land in the Southwest has been destroyed by the use of irrigation water in which the saline content is too high. Once salt water penetrates the huge sand beds they are destroyed as basins for fresh water. As this use of ground water continued to exceed the replacement and the water table drops the ground settles. In some places this sinking has amounted to 22 feet. Long Beach, California, has sunk 16 feet in some places, possibly partly from oil removal also. This settling of the ground destroys its porousness and makes it impossible for the water to gather there again in such volume. Water tables are sinking deeper and deeper and wells are being drilled farther and farther down in search of more and more water.

Rivers throughout the Continent have become nothing but the extension of city sewage systems. Poisoned with this sewage, industrial wastes, and muddy with the precious top soil of our farm and grass lands, these once beautiful streams become menaces to all life along their banks. Most edible fish have long since ceased to live in them. In many rivers the organic wastes are so high a percentage of the water that sludge forms on the river bottoms and generates marsh gas. The polluted water seeps out into underground channels which once supplied fresh water to the stream. There is poisons large ground water reservoirs. This happens wherever wells in ground water reserves have been overpumped along the rivers. The silt carried by the rivers tells the sad story of the wholesale destruction of arable land. An example of the colossal loss of top soil is told by the Lake Mead deposit of silt. This huge reservoir behind Boulder Dam (now



The disastrous flood in Vanport, Oregon, in May, 1948.
(Techphoto by E. R. Sands)

called the Hoover Dam) on the Colorado River has received, on an average, each year, enough soil to amount to 100,000 acres of ground one foot deep. Floods, erosion, pollution, and the dropping of the water table has caused concern to many of our citizens as well as some of our political leaders. But in typical political fashion the cures have been nothing more than futile attempts at patching up instead of a recognition of the real trouble as a Continental problem with its roots deep in the economic system itself. Exploitation of grazing lands, forests, and ground water supplies, as well as the plowing of sub-marginal lands has been the order of the day, for after all, isn't this a free enterprise system?

Too Many Cooks

Instead of starting at the ridgepole of a watershed and carefully maintaining it, the political policy of how to solve the problems of flood and erosion has been to start at the mouths of rivers and work up. Two agencies have been made responsible; the Army Engineers and the Bureau of Reclamation. They both have charge of dams, reservoirs, and power projects, and often run into headlong clashes about who has charge of what on the same river. The Corps of Army Engineers, which is under the Defense Department, has no tie whatsoever with the Soil or Water Conservation Services or the Forestry Departments. The Bureau of Reclamation is under the Department of the Interior. Here again the tie-up is slight because Conservation is under the Department of Agriculture. Besides these two major ones there are many other agencies with their fingers in the water pie: the Fish and Wildlife Service, the U. S. Geological Survey, the National Park Service, several power administrations, such as Bonneville, and Southwestern, the Bureau of Land Management, the Indian Service, the U. S. Forest Service, the Soil Conservation Service, the Production and Marketing Administration, the State Department, the Public Health Department, the Federal Security Agency, and the Tennessee Valley Authority. Besides this hodge-podge we have all the departments set up by the various states within their own boundaries. But rivers are no respecters of political boundaries. They pick up silt in one state and deposit it in another, gather rapid run-off in one state and crest into flood stage in the next.

Some research on the management of watersheds has proved that much can be done to prevent the loss of water by rapid run-off. It has been found that selective cutting in forests increases the storage of water in the snow areas. Where over-grazing has been allowed the ground cover will come back if grazing is stopped or limited. Burned over areas can be saved by reforestation. Rivers can be kept unpolluted by proper sewage and waste disposal. A Continental system of dams and reservoirs could prevent floods from ever again occurring with any damage. However, as long as the alphabet soup of the political agencies is confusing the real problem of water resources nothing will be done and we will sink deeper and deeper toward the depletion of this life-sustaining element.

A well goes dry in Illinois, a spring stops running in Idaho, salt taints the sweet water from a well in Texas, sewage damages a stream in North Dakota, silt fills a river bed in Albuquerque, New Mexico, until the river bottom is four feet above ground level and huge dikes are built to hold the water in its channel, recreational areas are destroyed by pollution, wells are sunk deeper and deeper, artesian basins stop flowing, and floods grow more rampaging and destructive. Still the political bungling, the hodge-podge of pressure groups, and the building of asinine projects, both public and private, go on and on. The fate of our high energy civilization in large part rests on what we do as a Continent about our water resources. In the search for individual gain we may destroy the bountiful home which nature has made possible for us here on the North American Continent. As in all things physical there comes a limit to how far we can go. The reckoning is almost upon us, it cannot be circumvented.

Continental Hydrology

The transportation potential of rivers has been largely ignored and suppressed by the leaders of the present system because of the powerful railway interests: witness the St. Lawrence Seaway. Technocracy has for many years had the design for a major overhaul of the entire river and lake system of the Continent, not only to conserve water, control flooding, stop erosion and provide hydro-electric power, but to make possible a cheap means of transportation throughout the Continent. (The outline of this proposal is available at the nearest Technocracy Headquarters in a leaflet called 'A Continental Hydrology.') There the highlights of what must be done are sketched. Startling in its scope, staggering and incredible to doubters as the Continental railways systems we have now would have been to the early nineteenth century people, it is practically and physically possible from an engineering standpoint. It would introduce local climatic changes, increase local precipitation and raise water tables over large areas. It would create lakes of large volume in areas at present considered arid. It would render possible the transportation of bulk material at an energy cost of one-tenth per ton mile of that of railroad freight haulage. It would make possible a tremendous development of hydro-electric power, considerably increasing all known estimates of possible hydro-electric power production.

The hydro-dynamics of the future call for intelligent action now. The problem of water resources is but one of the many darkening the future of this high energy civilization. The solving of these problems to protect our way of life, our high standard of living, today is an important requirement, tomorrow it will be a command. You must learn the next move today and make it in dignity or tomorrow risk being pitched headlong by the force of events. Technocracy stands waiting for your inquiry and action.

—Ruth Berge, 12247-3

Have You Observed?

... **This indeed is a day** when our recent past mortal enemies are becoming our friends—even convicted traitors. The notorious Tokyo Rose is receiving support from a post of the American Legion in the form of a resolution against federal action to deport her. It is interesting that Mrs. d'Aguino, alias Tokyo Rose, should be excused by one of America's super-patriotic organizations on the basis that she 'was a source of entertainment to hundreds of thousands of these fighting men,' referring to those American servicemen who were subjected to her propaganda broadcasts. Thus the Legion adds another incriminating blot to its long record of un-American activities.

... **American foreign policy** has become snarled beyond recognition as such. As one example, in the near east the U. S. State Department, under the inept 'leadership' of John Foster Dulles, finds itself 'morally' supporting the new Jewish state, while we supply the armaments to the Arabs (who provide the U. S. with badly needed petroleum) to kill our alleged friends. Is this what one would call killing his friends with kindness?

... **To illustrate** the rapid technological change in the U. S., a mere forty years ago there were only about 4,000 miles of paved roads and approximately 2.5 million automotive vehicles to travel them. Today there are 300,000 miles of paved roads and over 61 million vehicles. We got rid of the horse but not the ideas associated with the era in which the horse was used. As a result of the obsolete Price System control, we have wasted our resources and made traveling in many parts of the country thoroughly miserable in making the transformation. With engineering proposed by Technocracy, it is possible to make traveling pleasant. With the continued interference of business and politics, travel can be expected to be filled with ever more tragedy, as congestion on the highways increases.

... **We've done** a lot of bragging in the U. S. about the 64 million people who are supposed to be gainfully employed. Not considering that a great many of the employed are not making a decent living wage, of those who are employed more than fifty per cent are working in parasitical occupations, living from the efforts of those who produce something. Including farmers and construction workers, only about 25 million workers are engaged in production. Another four million are engaged in transportation and public utilities activities. By eliminating the Price System and coordinating the work which must be done on this Continent, only a fraction of the man-hours worked today will be needed tomorrow. And we shall be producing an abundance of goods and services.

... **North America** struggles with a confused complex of problems which are growing out of misdirection by its social system. As every day goes by, Technocracy becomes more outstanding with its clear answer to the whole problem of survival.

—Harry Briggs, 12247-1

THE SCIENTIFIC ATTITUDE

Reprinted from The Technocrat, February, 1946

As the problems of society increase in magnitude the future of this continent demands that science be applied to the social order

THE SCIENTIST is a human being, with biology, emotions and social conditioning similar to that of other human beings. He or she differs from the run-of-the-mill human only in the attitude used to study and understand reality. Most people who have a claim to being scientists, however, do not maintain the scientific attitude toward all phenomena, but usually toward only a limited part of nature. Therefore, confusion often appears when such individuals use their scientific guise and prestige to speak unscientifically about things outside of their limited realm of scientific investigation. This is especially true when they enter into a discussion of social matters. It is with the intention of helping you to recognize that which is scientific as contrasted to that which is non-scientific, and to help you to get some of the 'feeling' of science, that we present the following characteristics of the scientific attitude.

Clearness of Statement

A primary characteristic of the scientific attitude is clearness of statement. If there is to be an accurate system of knowledge built up, there must be a simple and precise language. The symbols used in this language must have the same meaning in terms of external reality to all persons using the language. That is, the perception patterns in the brain of one person must be translated into symbols which, when received by another person, stimulate similar patterns in his brain. The symbols may be sounds, pictures, diagrams, written words or numbers. The only requirement of the symbol is that it accurately communicates an agreement of perceptions.

Words are symbols which men agree to use as a means of representing certain things in nature. One's ability to use a language depends upon his knowledge of both the thing and the symbol and of their association. For example, an Eskimo may be familiar with a certain animal which we refer to as a dog, but he may not be familiar with the word 'dog.' So, if we used that word in speaking to him, he would not understand us. Words have only the meanings which we agree to give to them. On some words, we are in close agreement; on others, we are at variance. We are fairly well agreed as to the meaning of black, copper, hour, mile, kilowatt. On other words we are not so well agreed.

One of these latter words is 'science.' Science originally meant knowledge, and later it was also used to mean skill. These meanings still persist in such expressions as 'science of numbers,' 'science of wrestling,' etc. Scientists, however, have abandoned these definitions, and have agreed upon a more restricted definition. Science is now used to symbolize a method of investigating reality—a method of acquiring knowledge based on facts. Science is defined as **the method of the determination of the most probable.**

The brain acquires other symbols which do not correspond to anything in the external environment; such as valor, virtue, value. To say 'he is a good man' has no meaning; because, there is no agreement as to what 'good' means. Other symbols in the same category are democracy, religion, liberty, justice. The scientist, in his discussions, must reject all such meaningless symbols as useless. The test of validity for a symbol is whether or not you can point to something in reality—an object, an event or a condition—and say, 'this is it.' If the symbol stimulates a perception pattern in the brain of the other person reasonably similar to the one in your brain, then it can be used by the scientist; if not, it must be discarded. No scientist, as a scientist, would use such words as divine, brave, sinful or price. The scientist must know about that of which he speaks; which means that it must be measurable in terms of time, space, energy or mass.

The statements of the scientist must be simple, clear and concise, so as to reduce error to a minimum. People not familiar with the method of science are often impatient with the degree of accuracy and clearness of statement demanded by scientists. It is this accuracy and clearness, however, that enables the scientists to advance their knowledge and discovery as far as they do. Scientists use mathematics frequently; because it is the most accurate and precise language we have, and it is remarkably concise. The seeming exclusiveness of science is due largely to the failure of our schools to teach the language of science. This language is no more difficult than the language commonly used, and is far more comprehensible.

Devotion to Facts

The scientist regards facts as the highest authority. He begins and ends his investigation with facts, and the facts alone determine his conclusion. 'What are the facts?' is always his first question when seeking an answer to a problem.

Let us make clear, at this point, what the scientist considers as a fact. Many things which other people call facts would have no validity to a scientist. The scientist requires three characteristics in a fact: (1) It must be the result of observation. That is, it must come to him from the outside as the result of the stimulation of one or more of his sense organs. (2) It must be a close agreement among more than one observation, preferably made by more than one person. The simpler the observation required to establish a fact, the fewer that are needed. For example, the weight of a certain five-cent coin may be established with only a few measurements. More complex observations, or those requiring greater precision, may require hundreds of observations; as, for example, the speed of sound. (3) A fact must be verifiable. Anyone should be able to duplicate the observations that established the fact and see for himself. Whatever does not fulfill these three requirements is not acceptable as a fact by scientists. Thus, such phenomena as past events (for example, George Washington crossing the Delaware) are not now facts. Although the first two requirements may be met, if the event is no longer capable of observation it cannot be accepted as a fact. However, such things as written records, pictures or other corroborative evidence still in existence are facts, since they may still be verified.

Although an event, once passed, cannot later be established as a fact, the scientist judges its validity on the basis of three questions: (1) Could it have happened? Is the event consistent with all facts now known? (So far as we know, George Washington could have crossed the Delaware.) (2) What is the contemporary testimony? How many people observed it; and are they and the circumstances of their observations dependable? Is there an essential agreement among those making the observation? (3) What is the corroborative evidence? What facts now existing support the event? The scientist is suspicious of all unverifiable reports. He is well aware that purported events of the past are easily hoaxed, misinterpreted or falsified.

The scientific method reveals the scientist's deep devotion to facts. There are four steps in the scientific method: (1) **Observation of facts.** All scientific investigations must begin with facts. (2) **Formation of a hypothesis.** This is a preliminary conclusion which conforms with all of the facts known at the time. It is an attempt to explain the observed facts in some more general statement concerning nature. The hypothesis may or may not be correct. (3) **Deductions from the hypothesis.** These are detailed conclusions which rationally follow, if the hypothesis is correct. (4) **Verification of the deductions** through observation of more facts.

Let us illustrate this method with a simple example: (1) **Observation:** A piece of aluminum is dropped into a basin of water and it sinks to the bottom. (2) **Hypothesis:** Aluminum is heavier than water. (3) **Deduction:** A piece of aluminum will weigh more than an equal volume of water. (4) **Verification:** Weigh the two and see if this is so. This is a very simple example; but it is often just such simple procedure that determines important scientific discoveries, and the failure of it that permits erroneous beliefs to persist. (Does the ostrich really hide its head in the sand?) We once heard a college graduate make this remark: "Aluminum is really lighter than water, but it sinks in water because it is a metal." Even for simple problems, man did not discover the use of the fourth step until about three hundred years ago. Take the classical example of falling objects: According to the story, (1) Aristotle observed that objects fall to the ground when released from above its surface. (2) He concluded that the speed with which objects fall is proportionate to their mass. (3) So, he reasoned, if a ball weighed 100 times as much as another, it would fall 100 times as fast. This example, so far, is in accordance with the first three steps of the scientific method. But the fourth step was unknown, and was not followed; so, for nearly 2000 years, Aristotle's conclusions stood unchallenged. Many centuries later Galileo climbed to the top of the Leaning Tower of Pisa and dropped two objects of different weight. They both fell at the same rate of speed and hit the ground at the same time. Thus, Aristotle's hypothesis was disproved. Today, verification of deductions is the accepted practice in all fields of science, but is frequently neglected outside of science.

Although the scientist begins and ends with facts, the second and third steps in the scientific method call for a keen imagination and a high reasoning capacity. But, no matter how keen his imagination or how logical his reasoning, the scientist always returns to the facts for his final conclusion. In this respect, he differs from the philosophers, who rely only upon their reasoning for the final answer.

Agnosticism

The scientist does not accept anything until it is conclusively established by facts. He neither believes nor disbelieves, but keeps his mind open to any new evidence pertaining to the problem. The scientist is not lacking in a desire for final knowledge; but, he does not let this desire lead him into accepting on faith some conclusion, merely because it appears logical or is emotionally satisfying to him. When insufficient facts are at hand to support a hypothesis, or when there are facts that are at variance with it, the scientist remains skeptical. He is critical of all observations and all generalizations. Most of the labor of scientists is devoted, not to proving or disproving theories, but to finding the facts. The scientist goes wherever the facts lead, and they alone provide the final answer. Against facts, opinions, beliefs, traditions, logic or documents of testimony count as nothing. The scientist is willing to accept the results of his own observations, but is critical of all other kinds of evidence.

Obviously, no one person can review all evidence in all fields of scientific knowledge and make all the observations. So, even the most devout scientist must accept, at least for working purposes, much knowledge for which he has not made the observations. He must rely upon the testimony of others. The type of testimony that he is most willing to accept is scientific publications; for, these are at all times open to review and verification by other scientists. Knowledge that withstands a test such as this is worthy of tentative acceptance. Scientists are severe critics of their own works and of the works of others.

All Knowledge Is Tentative

The conclusions of science are tentative statements of probability. The conclusions of the scientist are the most probable that can be drawn from available facts. They are never regarded as final or absolute. Such finality must await the complete knowledge of reality. Since all knowledge that we now have is incomplete, it must be subject to revision in the light of new facts. But so long as knowledge conforms with the known facts, it may be used as a working basis for further investigation.

Workability is the test of all knowledge. If it works, it can be used as a guide. The accumulating of scientific knowledge is analogous to the making of a map. Whatever is known is put down. Some of this knowledge is highly accurate; some of it is only roughly approximate. As further observations are made by different people in different places, more details become known, and the map is filled in more accurately and more completely. Thus, slowly and surely, science is accumulating a vast store of knowledge that works, and which may be used as a guide to reality. But no knowledge is regarded by the scientist as final and beyond question.

We often speak of the 'Laws of Nature' as though they were realities that regulated the universe. But, there is no such thing as a 'law of nature' outside of the brain of man. These laws are merely convenient devices, invented by man, to summarize the knowledge which he has at a given time. They serve him as a guide in the maze of reality. The second law of thermodynamics, for example, is merely such a summary of our knowledge concerning energy transformations, and not an irrevocable decree of nature. The validity of the laws of nature lies in their being supported by a great mass of facts, and in their not being contradicted by other facts.

Intellectual Integrity

The characteristic of the scientific attitude that is most demanding on the scientist, and one that is often violated, is that of intellectual integrity. Science requires certain things of him that are not easily met. First, is intellectual courage. The scientist must be willing to submit all problems, beliefs and opinions to a critical analysis in the light of facts. Nothing must be too sacred or too venerable to be questioned and investigated; and no subjective consideration must be placed before the objective data of cool observation. This is not easy, and many scientists are not willing to go all the way with it; especially when it comes to matters of religion or social affairs.

The second thing that intellectual integrity demands is open-mindedness. This is the capacity and willingness to withhold belief until the facts are in. He must be prepared to say 'I don't know' to a great many questions. He must not let his thinking crystallize nor his conclusions become dogmatic.

Third, is intellectual honesty. Facts and valid conclusions drawn from facts are always accepted as the highest authority by the scientist, no matter how unpelasant they are to him personally, or how contrary they are to his cherished opinions, beliefs and desires. It is easy for human beings, even scientists, to give more weight to some evidence and less weight to some other, in order to slant a conclusion the way they want it to appear. Thus, one must be cautious in wholly accepting the statements of even renowned scientists; especially if they deal with matters about which these men have acquired beliefs or emotional feelings. The scientist must not let his ego impel him to adhere to a former conclusion in the light of later contradictory evidence, out of fear that his reputation will be ruined, if it is learned that he has made a mistake. His attitude must be dynamic. He must be ready and eager to correct his own errors, in the light of new evidence, and to adjust his thinking, emotions and beliefs to conform.

Fourth, is intellectual unity. To acquire this unity, one must be able to approach all problems of life with the scientific attitude. Too frequently, a scientist is a scientist only in his laboratory, where he deals only with some problem in a special field. Outside of his laboratory, he often abandons his scientific attitude; especially, when confronted with problems of religion, government, economics or social relations. Intellectual unity requires that he apply the same clearness of thought, the same devotion to facts, and the same agnosticism to every problem in every field, that he applies to problems in the special field of his scientific study. A renowned scientist may, for example, use the scientific attitude while studying atomic structure and be a foremost authority in that field; but may not even remotely approach the scientific attitude when discussing causes of unemployment. Unfortunately, few people distinguish between his two attitudes, and the many accept him as an authority in both fields. The scientific attitude is intolerant of such intellectual disunity.

We have said that the scientist does not believe; that he does not accept things on faith; that he knows of the things of which he speaks. That is true, except for one thing; and in this one thing, the scientist has the strongest faith. This is the faith that all reality can be investigated by the scientific method. It is not something that he can prove or demonstrate; yet, to him, it is the surest thing in the universe. He does not accept the proposition that there are phenomena beyond science and the scientific method of inquiry. He believes that beyond the things in the universe that he can detect and measure with his senses and his instruments, there is nothing.

In accordance with this faith and belief, the scientist accepts three basic postulates, which he does not question or seek to prove. He considers them to be sufficiently self-evident to be taken for granted. They are his defense against intellectual confusion and chaos. The three postulates of science are these:

(1) **The physical universe actually exists.** The scientist takes for granted that matter and energy are real, that the objects and events in the universe are parts of reality and not just the illusion of some imagination. He accepts this on faith and will not discuss it further.

(2) **Nature is orderly and uniform.** He believes that events and conditions in nature are the results of previous events, which are uniform in their character and continuous in their sequence. Events proceed from one condition to another in an orderly procession, which can be observed and described. When these same conditions are duplicated again, similar results will occur. Thus, day and night are events which follow a uniform and describable sequence, and are not the whimsy of some unpredictable force. It is this faith that enables the automobile engineer to proceed with the mass production of a certain type of automobile, confident that each car will perform in a manner similar to the others of the same design. It is also this faith that gives us assurance when we fill the tank with gasoline and start off on our journey. Without this faith, none of us would be able to plan ahead or predict the future even for a moment.

(3) **There are symbols in the brain which correspond to things and events in the external world.** The conscious perceptions in our brains correspond in the main with external reality. For example, we have a perception pattern of a chair as the result of light stimuli striking the retina of the eye; we assume that a chair actually exists. We move about in our environment, and the fact that we avoid conflict and misdirection in it indicates that there is at least a considerable relationship between perception and reality. The scientist takes for granted that what he sees, hears, feels, smells, etc., is real.

This is as far as the faith of the scientist goes. All else must be established by the exacting procedure of the scientific method. Proceeding from these postulates, science has built up an impressive system of knowledge that is dependable. It is knowledge that works. Those institutions that have applied this method and this knowledge have progressed with remarkable speed; especially during this twentieth century. Science has been applied to the problems of transportation, communication, industry, health and warfare. The result has been an almost complete change in those institutions within the last hundred years. But those institutions which have not applied the knowledge of science, or which have done so but slightly—government, economics, education and religion—have made little advance, and find themselves inadequate in this modern world.

Social Responsibility

Scientists have been slow to develop the concept of social responsibility. They have argued that science, to be pure, must concern itself only with the uncovering of knowledge and must not concern itself with the practical use which is made of that knowledge. The 'pure' scientists have sought to become an autonomous cult in the society, to which practical considerations, such as how the knowledge of science was to be used or by whom, was abhorrent.

They had a fear that such practical considerations would somehow contaminate them. But in this, they were hypocritical; for, if you asked one of them why he was doing the seemingly useless line of research he was engaged in, he would reply in effect, "One can never predict beforehand which knowledge will later be useful and which will not; this research may uncover knowledge which in the future will be of the utmost practical significance." The reason which he gave for carrying on his work was the very one which he sought to avoid when he was confronted with the job of following through on it. The 'purist' does not take such a detached view, however, of the political and economic interests that provide him with the Price System means of carrying on his work.

What he does to gain the favor of businessmen and politicians is often beyond explanation in terms of his purist attitude. The release of atomic energy has blasted the 'oxcart scientists' from their seat of social irresponsibility; and, whether they like it or not, they must assume leadership in and responsibility for the use of the knowledge they uncover.

The scientist who discovers new knowledge is the one most familiar with that knowledge, and is the one most qualified to carry it through to its practical application. The true scientist recognizes this social responsibility and incorporates it into his attitude. He recognizes the heritage that comes to him, which enables him to proceed from an advanced position. He recognizes the endeavors of others, perhaps more 'practical,' men who provide him with the apparatus, the maintenance and the security necessary for him to proceed with his scientific work. He recognizes the relationship between discovery and the processes of living. He feels that he cannot escape the responsibility of supervising and administering the use of his discoveries. He recognizes that he is but a small, integrated part of the system of men ,equipment and records that go to make up scientific research, and that this system integrates with the social mechanism and the processes of living. An isolationist point of view is thus incompatible with the scientific attitude.

The Science of Human Affairs

When it comes to social affairs, notably problems of government and economics, we find little of the scientific attitude and the scientific approach used by man. These fields have been dominated by the politician, the businessman and the clergyman. These have discouraged a scientific study of social phenomena, except for some of the peripheral details. But, as more technology is moved onto the social scene and more energy is degraded, the problems of society increase in magnitude and demand, ever more urgently, the precision and accuracy of science. We cannot afford to long delay the institution of a branch of science dealing with human affairs.

Technocracy furnishes the only available vehicle for a scientist to approach the study of human affairs and at the same time maintain intellectual integrity. Technocracy is science applied to the social order. Technocracy proceeds from its own postulate that **all social phenomena are metrical.** It analyzes the factors that go to make up human society, with special application to the North American Continent. It plots the events of the past and present as trend curves, then projects them into the future. This is the method of determining the next most probable social state on this Continent.

The findings of Technocracy are not secret nor sacred. They are open to investigation by anyone, and to close examination by even the most critical. How can a scientist ignore the scientific approach to social problems—ignore Technocracy—and at the same time maintain a scientific attitude? It is as incongruous as a person being an astronomer and an astrologist at the same time.

The scientific attitude is a basic part of the conditioning of Technocrats. Not all people who enter into Technocracy have had a thorough conditioning in science, and many carry over into this study much of the hodge-podge of intellectual bric-a-brac which they have accumulated on the way since birth. Those who stay with Technocracy succeed in making a more-or-less thorough 'housecleaning.'

They learn clearness of statement—how to state things in a clear, simple language which the other person can understand. They learn devotion to facts, and the attitude of agnosticism toward all that is not substantiated by facts.

They gain intellectual integrity—~~,~~the courage to submit all problems, opinions and beliefs to a critical analysis in the light of facts; an open-mindedness toward that which is not yet proven or disproven; an intellectual honesty in accepting the verdict of the facts; and an intellectual unity in that only the one attitude, the scientific attitude, is used to view all facets of reality. The Technocrat avoids intellectual chaos and futility by accepting the three basic postules of science and the special postulate of Technocracy.

The Technocrat has a high sense of social responsibility; he knows that his own future and the future of the Continent depends on what he does to help bring to realization the fullest application of scientific knowledge to human use. Out of the din of social noises on this Continent, the voice of the Technocrat is the one coherent sound.

—Wilton Ivie, C.H.Q.

MY TWO CENTS WORTH

I have been noticing that 'large size' packages of things you get at the store are getting smaller and smaller all the time, it seems so anyway. I asked Uncle Zeke what he thought of it, and he said it was just 'sales psychology.' It's like marking something for $1.98 instead of an even two dollars to make it look different from what it is. I guess you can fool most of the people most of the time with that sort of thing, because they keep right on doing it.

We started talking about the different sizes of packages and what they were called, when we got the idea of figuring out what the different size names really meant. So, we decided that instead of naming sizes, 'medium, large, giant, jumbo, and King size,' like they do, what they really should be called was 'tiny, small, medium, regular, and large.' Anyway, if you will think of them that way, you won't be fooled quite so much.

Uncle Zeke thought it would be much better to give the sizes in measurements instead of adjectives. If they would give the sizes in pounds or ounces or inches or quarts, you would have a surer idea what you were getting. Then you could figure out for yourself if it was small, medium, or large.

But I guess so long as you have advertising and selling, along with people who want to be fooled, you will have things labeled different from what they are—like calling clothes for a two-year-old baby 'four-year size' just to make the mothers think their babies are bigger than most other babies. Oh, well, I guess I will stop worrying about it and go down to the corner and get a jumbo ice cream cone for 20c, which is the same size as the small cone they used to sell for a nickel.

—IMA MORON

TRUTH IN OUR TIME

When our national publicity men speak, they may not be wholly and precisely accurate in all they say; for, one must make some allowance for their enthusiasm for dramatics and salesmanship. What they say may not be the truth in its strictest sense; but, you can be fairly sure, it is at least a reasonable facsimile of a close approximation of a synthetic imitation replica of a genuine copy of the real thing.

TECHNOCRACY

North America's Only Social Dynamic

WHAT?

Technocracy is the only North American social movement with a North American program which has become widespread on this Continent. It has no affiliation with any other organization, group or association either in America ro elsewhere. The basic unit of Technocracy is the chartered Section consisting of a minimum of 50 members and running up to several hundred. It is not a commercial organization or a political party; it has no financial subsidy or endowments and has no debts. Technocracy is supported entirely by the dues and donations of its own members. The widespread membership activities of Technocracy are performed voluntarily; no royalties, commissions or bonuses are paid, and only a small full-time staff receives subsistence allowances. The annual dues are $9.00 which are paid by the member to his local Section. Members wear the chromium and vermilion insignia of Technocracy — the Monad, an ancient generic symbol signifying balance.

WHEN?

Technocracy originated in the winter of 1918-19 when Howard Scott formed a group of scientists, engineers and economists that became known in 1920 as the Technical Alliance—a research organization. In 1933 it was incorporated under the laws of the State of New York as a non-profit, non-political, non-sectarian membership organization. In 1934 Howard Scott, Director-in-Chief, made his first Continental lecture tour which laid the foundation of the present Continent-wide membership organization. Since 1934 Technocracy has grown steadily without any spectacular spurts, revivals, collapses, or rebirths. This is in spite of the fact that the press has generally 'held the lid' on Technocracy, until early in 1942 when it made the tremendous 'discovery' that Technocracy had been reborn suddenly full-fledged with all its members, headquarters, etc., in full swing!

WHERE?

There are units and members of Technocracy in almost every province in Canada, and in addition there are members in Alaska, Hawaii, Panama, Puerto Rico and in numerous other places with the Armed Forces. Members of Technocracy are glad to travel many miles to discuss Technocracy's Program with any interested people and Continental Headquarters will be pleased to inform anyone of the nearest Technocracy unit.

WHO?

Technocracy was built in America by Americans. It is composed of American citizens of all walks of life. Technocracy's membership is a composite of all the occupations, economic levels, races and religions which make up this Continent. Membership is open only to American citizens. Aliens and politicians are not eligible. (By politicians is meant those holding elective office or active office in any political party.) Doctor, lawyer, storekeeper, farmer, mechanic, teacher, preacher or housewife—so long as you are a patriotic American—you are welcome in Technocracy.

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The world is at peace; and the scars of the last war are being obliterated. Our economy begins to lag; we covet a little armament business. We 'discover' that some other nation is a potential threat to the peace. 'We must have arms equivalent to those of that other nation'— to protect the peace.

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Again we learn that peace and business prosperity are incompatible; we covet a little armament business.

—Techno Critic

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THE NORTHWEST Technocrat

JULY '56

IN THIS ISSUE:

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- Adam's Rib
- Boxcar Unloader
- Veblen and His 'Leisure Class'

No. 184 (Vol. XX)

25¢

Sec. 3, R.D. 12247
TECHNOCRACY INC.
Seattle, Washington

Story Behind the Story

BEHIND WORLD tensions is a greater and entirely different story than is told by the press in North America or elsewhere in the world. Karl Marx, born a German Jew, buried in England and adopted by the Russians as their prophet of a new social order, is accredited with being responsible for present-day tensions through his unorthodox writings. This story has been told and retold until at this hour in history are poised the two technological giants of the world, evenly enough matched to destroy one another, and nursing burning hatreds and fears.

But also, and more significantly, behind present-day tensions are nine and one-half centuries of Vatican-inspired slaughter of human beings, precipitated by the Great Schism between the East and West Churches, in a vain effort to bring the Orthodox Church back under the control of Rome. The advent of the Russian Revolution of 1917 brought cries of anguish and hysterical bitterness from the Vatican, because it meant a more remote chance than ever of healing the breach.

The Vatican has played with powerful propaganda upon the plutocratic, ownership-conscious leadership of the western world since World War I, causing the west to lend far more credence to the announced intentions of world revolution of the zealots of communism than their capacity for action and influence on the course of events deserved.

Motivated by the paranoid fear of social change, western powers at the time of World War I, representing fourteen nations which included the United States, invaded the USSR to destroy bolshevism. World War II, with Hitler et al, represented another attempt of Roman Catholic Fascism to destroy the Soviets. Winston Churchill unwittingly exposed a portion of a third conspiracy to destroy Russia when he stated only a few months ago that at the close of World War II he ordered Field Marshall Montgomery to stack German arms for possible use against the Russians, the revelation of which nearly blew the roof off the House of Commons. In this age of nuclear weapons, we have since had several close brushes with a Third World War, a prospect that some minorities entertain with apparent enthusiasm because they must feel so sure that they are going to heaven that they would willingly, eagerly turn the earth into flaming hell if Russia could be destroyed.

Prevention of war between Russia and the United States is considered a practical necessity by all but the maniacs on either side of the two antagonists The opposing ideologies are being compelled to face the technological facts of life, which decree that in all probability war would bring a holocaust of horror, not only to both sides, but to most of the rest of the world.

North America, free of its disreputable alliances and its Price System, and with technological leadership can more than balance Russian power on any plane. But peace and security for North America is unattainable with its present leadership of scheming, chiseling front men for its Price System.

—Editorial Board

COVER PICTURE

Thickness Gauge Dial

At U. S. Steel Corporation's Irvin Works an employee watches an x-ray thickness gauge dial for variances beyond specified tolerances for fast-moving strip steel on five-stand tandem mill. The x-ray unit is part of an automatic gauge control system which was developed jointly through the efforts of both companies. (See page 25 for picture of mill. Photos courtesy General Electric Co.)

JULY 1956

THE NORTHWEST
Technocrat

THE PEOPLE VERSUS DEMOCRACY

A Book Review

TREASON OF THE PEOPLE, by Ferdinand Lundberg. Harper & Bros., Inc. New York. 1954.

FERDINAND LUNDBERG is a political philosopher and an independent writer and critic. He is widely known for his books, 'Imperial Hearst' and 'America's Sixty Families.' The author explains that the title, 'Treason of the People,' means that the people behave in such a way as to betray their own common good—the general welfare. He shows that on many counts the people cannot betrusted with their own keep, rather, that they will sell out their own welfare and that of their fellowmen for picayune considerations. Nevertheless, Lundberg is a devotee of democracy, the essence of which he considers to be social equality. Although he rejects political socialism, his concept of democracy, in its administrative aspects at least, embodies much of the theory of socialism.

The book is a criticism of the American people, both from the standpoint of their judgment and their sense of responsibility with respect to social affairs. But the author offers no new synthesis that would theoretically correct the faults of the present socio - politico - economic system. The chief value of the book is its incisive analysis of the behavior patterns of the common man.

Lundberg contends that the citizenry constitutes the fifth major branch of government, following the three usually recognized branches plus the fourth branch, the administrative, which is made up of agencies, authorities, and commissions which are not truly a part of any of the first three branches. The citizenry is malinformed as to its responsibilities and is defective in its function, yet it escapes the criticism and abuse that is heaped upon the other branches of the government. For, who among politicians, businessmen, or public relations personnel would dare criticize The People? Lundberg attempts in his book to fill this void.

Considerable space in the book is squandered on quibbling over the definition and scope of democracy. For example, he ponders the question whether labor unions are more democratic than manufacturers associations and concludes that they probably are, not because their aims or methods are different, but because they represent the interests of more people. Similarly, he tries to treat insurance as a facet of democracy, for it tends to spread the cost of losses over a wide range of people; that is, it socializes the risks. Aside from his mania for democracy, Lundberg evinces a blinding hate for the doctrine of white supremacy in the South and he is possessed with a phobia of Russian bolshevism. These tend to obscure his objectivity when he discusses subjects related to them.

The author states that political democracy is 'a practical impossibility above the level of an agricultural village' and that democracy, as demonstrated by political experiments to-date, has proven to be an illusion, not only in the formal structures of government but in its foundations among the people. He proceeds to elaborate on this theme from a number of specific viewpoints.

The formal exercise of democracy in a republic consists of voting for political administrators.

The Northwest Technocrat is published quarterly by Section 3, R.D. 12247, Technocracy Inc., 2208 Eighth Avenue, Seattle 1, Washington. Entered as second class matter July 11, 1949, at the Post Office of Seattle, Washington, under the act of March 3, 1879. Subscription rate is $1.00 for four issues. Single copy 25 cents. Continental Headquarters of Technocracy Inc. are located at Rushland, Pennsylvania. Entire contents copyrighted 1956 by Section 3, R D. 12247, Technocracy Inc.

Yet, although this privilege is not interfered with (except in the South), only a fraction of the people chooses to exercise it. As a consequence, so it turns out in practice, the personnel of administrative offices is picked by professional politicians rather than by an alert citizenry. Even the fraction which does vote shows very little intelligence or judgment. Most voters merely follow party lines which they have inherited from their family backgrounds or which they have acquired through religious, economic, geographical, or other prejudices. The 'independent' voter is scarcely an improvement over the party line voter; he knows so little about the issues involved that, in general, an equally intelligent choice could be made by tossing a coin. Those citizens who vote are not necessarily more alert and responsible than those who do not, for they merely vote their prejudices. Aside from lethargy, much abstention from voting is due to a feeling of frustration over the futility of one's vote.

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A duty and responsibility of citizens in a democracy is to assist the judiciary administer justice. Among other things, the citizen is expected to serve on juries. However, most citizens will do everything they can to avoid this duty, with the result that the jurors who are selected consist of those who lack occupational exemption or sufficient political pull to get off. So dubious is the judgment of juries that many prosecutors prefer to accept a plea of guilty to a lesser offense than let the case go to trial by jury; and often both sides prefer to rely on the expert decision of a judge rather than trust the whims of a jury. Another responsibility of the citizen in this connection is to serve as a witness when the occasion arises. Here again the citizen is reluctant to do his duty, often allowing injustice to be done rather than become personally involved in a case. Even when subpoenaed and forced to testify, the citizen may give false or prejudicial testimony for any one of many reasons. Then, the verdicts of juries are frequently faulty, especially in cases where the juries decide the amount of awards to be made. It is particularly difficult to get a fair verdict in the South where the case involves whites and negroes.

Payment of Taxes

Another duty of citizenship in a democracy is the payment of taxes; but in the United States, as elsewhere, the people are very reluctant to pay taxes and avoid doing so at every opportunity. When called upon to vote taxes upon themselves for some needed civic improvement or maintenance, the citizen usually votes against the improvement. As a consequence, most taxes have to be imposed on the citizen indirectly; that is, the tax is included in the price he pays for something else. For example, a tax is levied on the manufacturer and he simply adds it to the price of the things he sells to the consumers. While there is plenty of ground for assuming that politicians are careless and extravagant with the peoples' money, it is also true that the people themselves are very careless with their own money. This can be demonstrated by compiling a list of the things that people spend their money for. Lundberg elaborates on this theme, giving numerous figures. For example, much more money is spent on satisfying appetites for non-essential items than is spent on health, education, public services, and other general needs. One of the most serious obstacles to social reforms and physical improvements is the claim that we can't afford them; yet, that argument falls flat in the face of recent huge expenditures for wars, automobiles, and other luxuries.

Fighters for Wars

Still another duty of citizenship in a democracy is that of fighting in one's country's wars. Yet, few citizens care to risk their lives even in the most 'righteous' of causes. Consequently, the United States and other 'democracies' have had to institute conscription to get enough fighters for their wars. Even then, conscription is instituted piecemeal, taking in one small 'class' after another so as not to engage the opposition of too many people at any one time. Since everyone prefers to let someone else do the fighting, all citizens outside of the class that is being called up at the moment are content to accept the conscription. So adverse are most people to fighting in wars that, in order to get a war going at all, the leaders must finagle the people into it. One technique involves the use of twisted semantics; for example, every war must be presented as a defensive war against foreign aggression and oppression. Even so, the people are never trusted with voting directly on the issue of going to war.

The author's indictment against the common man is not that he resents being dishonestly pushed into fighting his country's wars, but rather that he fails to set any worthwhile goal for fighting during the war and, once the war is over, he loses all sight of any alleged ideal for which he was supposedly fighting. The people will accept as a background ideal that a war is for the purpose of Making the World Safe for Democracy, for example; but, at the first opportunity after the war, they will return to doing business on a friendly basis with the worst kind of anti-democratic dictatorships. At another point in this discussion, Lundberg says: "Morale was always in danger of collapsing in the United States army—that is to say, the anarchically individualistic elements that composed that army, accustomed to doing just about what they pleased within wide limits in civilian life without any serious concern for public responsibilities, were constantly displeased, irked, angered or depressed by the fact that they were now obliged to respond to authority and to live under unpleasant conditions." Still, those who object most strenuously to the 'caste system' and other undesirable features of military life during their 'hitch,' do nothing about it either before or after they are in uniform. They are then too concerned with attending to personal matters, which in America is making money; and those who were not in uniform during the war, hence were in a position to make their voices heard, likewise did nothing, being mainly concerned with turning the war into a good thing for themselves.

Lundberg admits that, in the courts of the United States, much injustice is done because of economic differences between the people who are brought into court. Some of this injustice is done to poor people because they cannot afford suitable council or are unable to pay for adequate investigation; but by far the greater injustice accrues from those with money being able to escape the penalty for their acts. Injustices in court, he contends, are trivial when compared to those imposed on people by other people. Groups of people force concessions for themselves from society at large through various pressure tactics. Included among these groups are political, economic, and religious bodies. Individuals and social groups tend to work against society as a whole for their own particular advantage rather than work together for the general welfare of all. The author makes much of the discrimination against the Negro in the United States, particularly in the South, but points out that the Negro wants nothing better than mere equality with the white man, and that, when the Negro does happen to get into a position of economic and political advantage, as he has done in some northern cities, he does exactly what the white man does under similar circumstances—heads for the gravy train.

In the United States there are tens of thousands of interest groups which seek special privileges for themselves. Many of these use coercive force to obtain their demands, hence are known as pressure groups. Among these are labor unions, professional associations, businessmen's organizations, other economic blocs, and religious bodies. Pressure groups threaten other groups or even the society at large with certain penalties if their demands are not met. There is no pressure group operating in behalf of the citizens as a whole.

Religion and Politics

In an interesting chapter on 'Religion and Politics,' Lundberg exposes the pressure activities of church organizations in the United States. He places particular blame on the fundamentalist Protestant groups and the Roman Catholic hierarchy as the principal offenders, with the latter being more militant and aggressive. Almost apologetically, yet with penetrating jabs, the author describes how the Roman Catholic hierarchy seeks to 'Catholicize' the United States; that is, gain complete political, economic, and social control over the entire country and the entire population, organizing it into a Orwellian monolith, hints of which are to be found on a lesser scale in Spain and Eire. But, in spite of his lack of faith in the common man and in spite of the powerful connections established by the Roman Catholic Church in America, Lundberg thinks the hierarchy is playing a losing hand; for its doctrines are out of tune with the times and the public is influenced by information from many sources, including science and social liberalism. Further, he points out, that, because of the narrowness and shallowness of Catholic education, Roman Catholics fill very few key positions of functional responsibility in the country. This is particularly so in the technical fields. Compared to Catholicism, the Protestant pressure groups are relatively impotent because their leadership is 'lost in the quagmire of inter-sectarian struggles.' The chief danger to America is that many people (only a minority, it is true) do follow the political and social directives of the clergy and these people constitute a political balance of power in favor of clerical domination over secular affairs. The author's main objection to social dominance by church institutions is, however, not their tendency toward monopoly but, rather, their totalitarian structure and methods.

Pressure Groups

In the economic field, the major pressure groups are business, agriculture, and labor. We are all familiar with the ways in which agricultural pressure in recent years has cost the American taxpayers billions of dollars directly in 'price support' programs and has cost the consumers many billions of dollars more, indirectly, in higher prices for agricultural products. . . . Organized labor seeks to improve the economic position of its members at the expense of the society as a whole; yet, as wages go up, prices of the goods produced by labor keep pace. So the only way in which the union member can get ahead of the game is through the purchase of 'bargains' in the form of imports from cheap labor areas or goods made by lower paid workers in other industries. Strikes by labor are not directed so much against the employers (who merely add the higher labor costs to the price of their products) as against unorganized labor and the consumers in general . . . Business pressure can be illustrated with the example of opposition, over the years, against the St. Lawrence Seaway (which would have been a great public benefit) by the railroads, seaports, warehousing companies, and other business concerns which faced a possible loss of revenue. The halls of Congress are filled with business lobbyists who are seeking to gain some special legislative advantage for the businesses they represent.

The United States is supposed to have representative government. But there is many a slip between the people and the government that 'represents' them. For the most part, the government is made up of people who represent interest blocs of voters. Since most citizens fail to vote at all and most of those who do vote are supporting some pressure group, the elected 'representatives' are those who represent some narrow interest with a decisive number of votes. Interest group representatives then make deals with other interest group representatives in order to get a majority vote for their respective programs. Thus, although the farmers, for example, constitute only a minority of the population, they can usually get their special interest programs supported by a majority of the legislators. Likewise the petroleum interests, the mining interests, the railroading interests, etc.

Social Leaders

While the people are at the mercy of the politicians whom they elect to represent them, their real oppression comes from their social leaders, such as the leaders of labor unions, professional associations, churches, businessmen's organizations, political machines, etc. These leaders usually hold office for life and it is more difficult to remove them from office than it is to remove elected political leaders. Although the United States has a facade of democracy, actually it is ruled by an oligarchy which, through default of the people, makes the decisions and determines the policies.

In political elections, the people let the machine politicians do the actual deciding, and the people obediently follow their 'suggestions' at the polls. In turn, the machines do certain 'favors' for the people. Included in these favors is the securing of pardons or very light sentences for serious criminal offenders; and this can be done since the personnel of the judiciary is heavily loaded with selectees of the political machines. The author spends a separate long chapter on the techniques used by the late Franklin D. Roosevelt in harvesting the bloc votes, his principal technique being the wooing of the big city machine politicians. The payoff to the machines was in the form of allowing them to make nominations for politically appointed positions. Roosevelt also played for popular favor by giving the people what they wanted—a status quo with a few frills added.

On the whole, group leaders take care of themselves before they take care of the people, whether they are in politics, religion, labor, the professions, or business.

Freedom in Money Economy

It is contended that the principal fruit of democracy is freedom. However, in a money economy, freedom is largely relative to the a mount of money one has at his disposal. Thus, in America, while one can publish or say almost anything he wants to, getting a publisher or an audience is another matter and one that may prove costly in the financial sense. One has an almost unlimited right to move about in the country, which right can be exercised freely if one has the time and the money; but, if one is without money, one's movements are subject to the penalties pertaining to vagrancy. In America, one has freedom to work at any job where he can find employment, and he also has freedom not to work; but, again, this freedom is tied in with financial considerations which are often of vital importance to his livelihood. One is also free to spend his money for almost anything he chooses, if he has the money, particularly if he has more money than is demanded by the necessities of life.

The primary external restraints on one's freedom comes, first, from the law, which sets certain limits to one's exercise of freedom; secondly, from lawlessness (often politically protected) which is a constant hazard to life and property; and, third, from pressure groups which are seeking to enforce their demands on the society. As examples of the last: One is much restrained in his freedom on Sunday because of the influence exerted by religious pressure groups; one is restrained in seeking employment of his own choosing because of labor union restrictions; and one is restrained from buying many things because some special interest has jacked up the prices. Other restraints on one's freedom are self-imposed; such as the assumption of family obligations, the acquisition of various appetite addictions, failure to obtain knowledge and skills essential to the higher categories of employment.

Lundberg thinks that the principal purpose of freedom is the development of one's capacities for advancing the common good. But he notes that, 'in actual practice, most persons squander their freedom, waste it in pursuit of shallow pleasures and self-defeating personal gain.' The great majority do not avail themselves of the opportunity to become informed about current events and matters of general significance. A majority of people hold to superstitions that have long since been outdated by the findings of science. On the whole, there is widespread resistance to education by the American people.

In discussing what the people do with their freedom, Lundberg mentions the excessive amount of crime that they accept and, in fact, participate in. Under crime he includes, besides the usual anarchic theft of property and violence against individuals, the organized activities of the underworld, in which the public cooperates, partly through intimidation and partly because it provides people with services not easily obtained legally. Also included under crime are strikes, racketeering, and violence fostered by labor unions. Likewise white collar pilfering and embezzlement. The really big crime is that of the organized underworld, in which local politicians and many police departments are active participants. Reform movements and crackdowns on crime have generally proven ineffective, since conditions continue to remain as before, although a few folk, innocents as well as guilty, are periodically herded off to jail to appease the clamor of the good people.

Uses of Freedom

Other faulty uses of freedom by the people is reflected in the huge number of automobile accidents, the littering of the countryside with garbage, and the large number of forest fires resulting from carelessness by smokers. Although the public is very sanitation minded within the walls of its own homes, the people permit their rivers, lakes, and shorelines to become heavily polluted with wastes of all kinds. Businessmen are permitted to manufacture and sell shoddy merchandise, and they are permitted to charge excessive prices whenever the demand is sufficiently great.

In the United States, one can learn nearly anything he wants to, he can say almost anything, and he can assemble with his fellowmen for almost any purpose; yet, the overwhelming majority reject their educational opportunities; they have very little of significance to say; and few assemblies are called to consider matters of constructive importance, still fewer are attended by any sizable number of people. It is true, of course, that if one wishes to commit suicide in a spectacular manner, he need only go about the country questioning the myths, dogmas, and notions of the multitudes or exposing the machinations behind the scenes of vested interest groups; but this activity is not of major concern to the average person. On his home ground, the citizen does not make use of the freedom which is permitted him without penalty.

Taboo Subjects

Any information disseminated to the masses of the public, via Hollywood movies, radio, television, and the popular press is so heavily loaded with taboos and falsehoods that it bears only slight resemblance to reality. This applies particularly to history, which cannot be translated for public consumption except in the form of institutional propaganda. Among the taboo subjects are scientific discussion and presentation of matters pertaining to sex or to the 'soul,' both of which must be treated as mysteries. Any thing that strikes at the power of pressure groups—religious, financial, economic, or moralistic—is refused presentation on the grounds that it is 'publicly inacceptable.'

Most material presented to the public is biased; that is, biased in favor of some special interest or pressure group. Seldom is any such material biased in favor of the general welfare. Most of that which is not biased is of such trivial import that it is not worth bothering with. Although the outer forms of freedom are established in America, the people make very shabby use of their opportunity. Most people who do take a position take one in support of some narrow, self-serving interest and do nothing that would advance democracy and the common good, laments the author. There are, it is true, many decent people who would do nothing overtly selfish or anti-social, but that is all that can be said for them—they are decent. They refrain from positive action in behalf of the general welfare, either from timidity, indifference, or lethargy.

The Background of Democracy

Lundberg considers the chief advantage of democracy to be the background emotional attitudes that it instills in the people—attitudes which favor freedom and individual worth and which disavow tyranny and oppression. He acknowledges that the people are not very good guardians of democracy and the opportunities it presents; yet he has nothing better to offer. His hope lies in the steady, although admittedly muddled, gropings and efforts of those sincere and dynamic individuals who will attack the limitations and abuses of our institutions and who will continually advance the general welfare. In this connection, he says:

"There must be a further general attack, perhaps by educators but also by publicists upon the idea that material acquisition is the end and aim of the good life; for it is not. The so-called successful as well as the unsuccessful are ground to pieces, dehumanized, and made ill by the excesses to which the acquisitive drive is carried in contemporary life. Production and consumption of manufactured goods is not the whole life, nor even half, and problems relating to production, distribution and consumption should not, for the sake of the common good, occupy so much of the political foreground as they do."

'The Treason of the People' reveals that its author has an understanding of the American people and an insight into their behavior characteristics that is refreshing. It also reveals that he is essentially a philosophical moralist and social liberal who really has no place to go in our modern society. He appears to be completely unaware of the greatest factor in social affairs—power technology. Or, perhaps, he purposely evades it because it frightens him.

A New Direction

The solution of the social dilemma of this Continent does not lie in any form of political tyranny—whether it be a dictatorship of one man, an oligarchy, a malinformed electorate, or the mob. It does not lie in the reformation of the individual or remolding of man's existing institutions; nor is it to be found in the exhortations of struggling and enlightened moralists. As Lundberg carefully demonstrates, the people are like sheep, seeking only shallow self-serving objectives; and they will blindly follow those leaders who appear to be aiding them in achieving those ends. The general welfare cannot be approached through a direct appeal to the goodness in man. It must be approached from an entirely new direction—from the direction of technological application. Function, not the 'will of the people,' must be the basis for decision in matters of social policy.

The simple technique of distributing the produce of the Continent on an energy accounting basis, thereby eliminating the use of money and exchange, would abolish all the crime, all the acquisitiveness, all the rivalry, and all the preoccupation of the people which relates to money and monetary values. An energy accounting system would not only be more functional than a money accounting system, but it would provide an equitable and effective distribution of goods and services to all citizens, and it would operate in an economy of abundance where a money system would not.

A technological governance of function is the antithesis of a political tyranny, whether benevolent or otherwise. It would provide the people with the means and the opportunity to do that which is consistent with their natures in a society. It is a technique for providing a population with the physical goods and services which they require and demand, with a minimum of human regulation. On the contrary, all political governments have proven to be agencies for the suppression, oppression, and depression of the people, operating for the most part in the interest of arbitrary and self-seeking pressure groups.

Technocracy does not claim to be derived from nor to embody the concepts of political democracy; yet, in its effects, Technocracy will be far more democratic than the visions of the most devout supporters of democracy, including Ferdinand Lundberg.

—Wilton Ivie, CHQ.

Revolution In Printing

CHICAGO—The greatest revolution in printing since the invention of movable type 500 years ago is now taking place, but U. S. publishers and printers may miss the boat if they don't take needed steps soon.

So said O. M. Forkert, graphic arts consultant, at a meeting of the Chicago Business Publications Association. He listed these needed steps:

1. Create an American graphic arts academy, similar to one in Sweden which is contributing importantly to progress there.
2. Start an editorial training and research center that would offer training in all new processes in the graphic arts.
3. Establish fair trade rules in this field, to end unfair marketing practices that can hinder introduction of new processes and equipment.
4. Take a more active part in exchange of information on printing with other nations.

"At the last international conference on such matters in London, this country was not even represented," Mr. Forkert asserted. "Yet they were talking there about really astonishing new developments in printing.

"The basis of the new development," he said, "is the use of photo composing equipment, in place of conventional hot metal type-setting."

He warned that European countries are moving along rapidly in this field:

"In Russia, there is no metal type. It is all plastic type and photo composition.

"There is a danger of American publishers and printers becoming too isolated, in the face of the biggest innovation in the history of printing." Mr. Forkert observed that many of the great strides taken by foreign printers have been accomplished with U. S. money.

Illustrating what new processes can do, he held up for view a 66-page book, printed by new methods, for which production costs were only $280. He said that the new equipment was lower in cost and reduced the time needed to set up for printing.

"This is upon us," he asserted. "It is being done right along." He cited a news release packet released recently by General Motors in introducing one of its new cars. The release, he said, included a note explaining to editors that for publications using photo-composition methods, column-width photographs were included.

(More evidence of growing use of the new methods turned up at the annual convention of the Southern Newspaper Publishers Association at Hot Springs, Ark., where a slide film, prepared by the Intertype Corp., was presented, showing the use of photo composing machines in plants of the St. Petersburg Times, Milwaukee Journal and South Bend Tribune.)

Asserting that printing is entering the electronic age, Mr. Forkert foresaw the printer of the future as a man standing by a machine watching for a little red light "to signal that a press job is out of register by a hundred thousandth of an inch."

—Industrial Marketing

Have You Observed?

. . . **One gets** a little tired and irked at the time being spent on studies and conjecture about the Soviet Union. It is reported that some 500 organizations are devoting their efforts to analyzing and evaluating information about Russia. The Technocrat wonders when some of these organizations will begin to study and evaluate trends and events on this Continent. Up to now, this terrific job has been left entirely to Technocracy. Nobody else seems to give a damn.

. . . **According** to a report appearing in the Everett Daily Herald on April 17 from a U. S. government agency that refuses to be named, Russia isn't nearly as 'godless' as Roman Catholic propaganda would have us believe. The report states that there are 27,000 churches in Russia, of which 20,000 are orthodox, 5,400 are Baptist—and another 1,500 are Roman Catholic! The thing that appears to gripe the Roman Catholic Church is that it has been unable to dominate the religious and political scene in Russia, as it has elsewhere in the world, including the U. S.

. . . **Eisenhower** would stoop even to using his declared enemies for his political advantage. The American people may be entertained with the spectacle of a visit to Eisenhower by Marshalls Zukhov and Konev in the near future. Thus Eisenhower could again play the 'peacemaker' role that he acted in the closing days of the Korean War. Maybe Eisenhower took time out from playing golf and discovered that his 'war hero' popularity is wearing thin, requiring some dramatic move to sell himself to the public for the coming elections.

. . . **It is reported** that Eisenhower is pretty angry with 'Hazardous Harry' Truman for calling him a 'part-time' president. One wonders, as he listens to the ghost-written, poorly read speeches of Eisenhower, whether he has the emotional capacity even for anger.

. . . **Among the many** problems which are steadily growing is the declining farm income. According to Labor, in a report dated April 18, there has been a disastrous drop in Midwestern farm income determined as the result of a study of 148 Iowa farms, all of them modern and above average in soil quality and equipment. Net income per acre on these farms dropped to $15 in 1955, compared with $39 in 1954 and $56 in 1953. Even the fairly large farm operators are 'on the ropes,' while the small farmer just hardly 'isn't' any more.

. . . **Propagandists** for more and better hysteria about Russia still wail for the kulaks of Russia, who were collectivized off their farms. Who is crying for the American farmer, who is being collectivized, Benson style? While there is no future or virtue in farm toil, in this age of technology there is no place for the has-been farmer when he is forced to leave his farm. A bitter lesson is being learned by this segment of the population.

—Harry Briggs, 12247-1

It Cannot Be Replaced . . .

A friend of Einstein's, Anne Fremantle, tells this incident:

'Once, walking back from the Institute of Advanced Studies, Princeton, N. J., he spoke of the lowering of the water table as more serious for the world than the threat of war: "If I were dictator, I would charge for water, everywhere. If people had to pay for it they would not waste it so much. It cannot be replaced, the water table," he said.

—The Christian Century, May 25, 1955

In these comments the late Professor Einstein's analysis was incisively correct. However, inasmuch as home-owners and renters, as well as industrial plants, all pay cash money for their water already —whether it be in monthly bills or taxes—this obviously is not solving the problem . . . it will require the over-all direction (not 'dictatorship') of a Continental Hydrology, nothing less . . . just as Continental Hydrology will also be necessary to solve the perennial flood problems of North America.

ADAM'S RIB

Today technology has enforced, to some extent, the liberation of women from economic bondage, a liberation that all the agitation and moral indignation of thousands of years could not accomplish.

THE AGE OF SCARCITY has lasted since before 8000 B.C. Ten thousand years of feminine slavery have left an indelible mark that cannot easily be eradicated—the female of the species has been forced into a condition of parasitic dependence on the male. This, nevertheless, has not always been the case and is not essential to the processes of life.

When mankind descended from his arboreal refuge and walked on the ground, it was, in all probability, the female of the species who counselled the abandonment of the branches of the dwindling trees for the safe seclusion of a cave or a hole in the ground, where she could raise her offspring in comparative security.

At this period, man was scarce, but food was abundant. It follows that reproduction was the most important function. Value varies as scarcity. As the numbers of men increased, as the climate changed and living conditions became more difficult, the equilibrium of life was disturbed. Food became scarcer and man more abundant, until a state was reached where food was more important than reproduction. In abundance, value tends to disappear.

Though we have no clear record of the event, it is openly agreed that in all probability it was the female of the species who founded agriculture, in order to eke out the miserable existence which would be all the male could produce from his primitive hunting and fishing. The above is borne out by the myths and folklore of primitive peoples, despite the distortions which obviously resulted from the idea that the property of fertility belonged naturally to the female.

Matrilineal Customs

During these early stages of mankind, matrilineal customs were probably dominant. The Iroquois and Pueblo Indians of North America, as well as some of the peoples of the Pacific Islands are examples of outlying peoples who lived for long periods of time under conditions of relative food abundance. Among them matrilineal customs are still prevalent, and descent, kinship, and succession are reckoned from the mother—a practice reserved in our so-called civilized states for the illegitimate and despised only.

In ancient Egypt, the pharaoh held his title only as a prince consort. The throne and rule of Egypt descended in the female line. For many unbroken generations, the Pharaohs raised children by their full and half sisters, thereby disproving, from an experimental viewpoint, the common belief that incest is an unnatural process. It is admittedly a crime against the customs of civilized peoples, but then so is the custom of a woman cohabiting with her deceased husband's brother.

All deities of nature were, at first, goddesses. Later in history, however, the fertility god is found in conjunction with the fertility goddess. Although this may have come about as a consequence of the primitive idea of providing the female with a mate, there was probably a more substantial reason for the phenomenon.

The Concept of Property

The phase becomes current at about the same time as matrilineal customs were giving way before the patrilineal, and the concept of property was becoming widespread. The concept of property included the slave as well as the land, the tent, the cattle, and the weapons of the individual. Women, being physically weaker, became enslaved to and the property of the stronger; a state from which they have not yet emerged.

The patrilineal concept could only endure by replacing that of the matrilineal. In this it was successful, in all but a few isolated cases as in Egypt. This condition was not the result of any philosophic opinion or anthropomorphic decision but was forced on the human race by the state of scarcity then prevalent. The necessity of a constant struggle for existence relegated to the background one of the great instincts. Osmosis and diffusion became of relatively greater importance than reproduction.

Abundance, during these last ten thousand years, has occurred only in certain limited localities and then only for the benefit of minorities. Such cults as those of Diana of the Ephesians, the Hathor of Luxor, or the temple prostitutes of the lower deltas of the Euphrates and Nile, appear to have been due to such local conditions of abundance. In districts where scarcity and starvation were men's bedfellows, such as Tierra del Fuego and the Arabian and Saharan deserts, women maintained consistently a menial position. Even among the so-called civilized peoples, possessivity of the male and insistence on chastity for the female are far more noticeable among the poorer classes than the richer.

The kaleidoscopic change of religions during this period had no appreciable effect on this state of affairs. Even the Christian Church, after attempting to ignore reproduction entirely, owing to its belief in the near approach of the end of the world, settled down to preach the patrilineal code.

The position of women under this code was and is subservient. Until recently, women were forbidden by general custom to be other than household or farm drudges. When these duties were taken over by chattel and wage slaves, their activities were confined to bearing children and amusing their lords and masters during hours of leisure. Church, children, and kitchen had to be their creed.

It follows, that under a barter system, women necessarily had no property or skill to dispose of and could offer little of value except the use of their bodies. Under the Price System which superseded the barter system, their assets were in no way increased.

Two Main Factions

The effect of this has been to divide women into two main factions. In the first of these were the women who were prepared to sell or barter the use of their bodies to only one master in return for a guarantee of subsistence for the natural span of life. The rate of payment was relatively low, though the security was correspondingly great; a condition which both the state and the church recognized so that they lent this faction their full support.

The other faction consisted of women who were willing to sell, barter, or trade the use of their bodies to any number of masters for short and uncertain periods, receiving in return a much higher rate of remuneration but less security of tenure. Though this faction was not so fully recognized as the other by the church or the state, it was accepted by both.

The remuneration received by each of these two factions would vary relatively to conditions but a good modern analogy of the remunerative distinction between them would be that of the difference between preferred and common stock, security, in view of the prevalence of scarcity, being the dominant note.

These two factions may be likened to two trade unions in some aspects of their activities. Viewed as entities, they both strenuously support the Price System and the status quo; since they are both participants in Price System contracts. They both insist in regulating the terms of the contracts, the wages where possible, and often the conditions of work. Both, at all times, will marshal the forces of their members in disapproval of the blackleg and the scab. But no rebel, be he employer or employee, was ever treated so severely by a trade union as is the woman or the man who has transgressed the rules and thereby threatened the economic security of either of these two factions. Economic contracts are a Price System essential and contract breakers are to be correspondingly feared.

Economic Position

Despite the natural antipathy of one to the other, these factions recognize the economic ground on which they stand. The first faction knows that the second faction does not threaten their economic position seriously. They appreciate that this other faction fills a necessity in the lives of the younger males who as yet cannot afford a regular wife and of the older men who have either lost some of their purchasing power or have so increased it that they can afford to support two women, if only custom would permit them to do so. Another phase in favor of this second faction is that through them the chastity and the sexual ignorance of the young girl is preserved, so that they usually reach the marriage market in a far more 'saleable condition.'

Both of them look, however, with utter disdain and bitter hatred on the woman who so disgraces her sex and undermines its economic livelihood as to use her body at her own discretion and for her own enjoyment without thought of trade, barter, or sale. She belongs to an even lower category than the chiseler or price-cutter.

These two factions complain that they are not as strongly supported as they could wish by the male sex. Male objections to rebels from the women's 'organizations' are, however, based on possessivity and are therefore personal and individual and do not affect males as a whole. Naturally no greater insult could be given the Price System male than that his property should be used by someone else without his consent. Not only is his property sense outraged but the covert or open sneers of the other property owners destroy his amour propre and offend his ego. In such a case he can do no less than support with righteous indignation the women's factions. In this he acts as the business man does who supports the officials of the trade unions against their rebel followers — except, of course, in such cases as he can foresee personal glorification or profit in the opposite course.

Liberation by Technology

Today, technology has forced, to some extent, the liberation of women from economic bondage, a liberation that all the agitation and moral indignation of thousands of years could not accomplish. The strictness of the old patriarchal code was weakened during the late war in Europe, as a result of the shortage of manpower. After the war women were retained in business and factory employment because they offered a source of cheap and efficient labor. Still, the vehemence with which their entry was opposed by the remaining women will be remembered and even yet a business career for a girl is only considered a source of 'pocket-money' and an opportunity to sell herself in a wider market than that of the home circle.

Is it surprising that women cling to their domestic chains and prefer their apparent security, as the pets of their masters, to a stand with their brothers and mates in the battle of life? Can one be surprised at males who resent the possibilities of loss in property rights over females that a Technate implicates?

That woman's primary function is to bear children is a fundamental fact of nature. Her physical mechanism was designed for that purpose. That she should be restricted to bearing children only to a purchaser on the market and be forced by economic dependence into slavery is a defiance of the natural laws that must inevitably bring a penalty. That penalty lies in the decadence and degradation, both physical and mental, of the bulk of the human race. The economic dependence of women for all these centuries has bred a canker of decay. Generation after generation of 'slave mothers' have by contact and precept raised a 'slave population,' so utterly subservient that it is easily controlled by a set of anachronistic circumstances.

One result of the technological operation of a high-energy social mechanism will be a population of wholesome mental and physical characteristics with women having their complete freedom within the community. In a Technate the first two great problems of life will be solved. Scarcity will disappear in the face of abundance, and the dangers of a population so deficient that it cannot produce its own subsistence will have vanished.

The human race no longer will need to cling to the old interference controls designed for an age of scarcity, and will free itself from the anthropomorphic forms of dominance. In a high-energy civilization it would be found no longer posible to hold new generations down to the primitive and archaic habits of the Mesopotamian and Nile deltas. It would be forced, whether it approved or not, to change its ways, its habits, and its customs to conform to the new technology.

Those who fear that such a condition would produce an era of sexual and other orgies should be reminded that the effluvia of cesspools is common only to cesspools and that the perfume and beauty of the rose springs from the same organic compounds. Such a fear is the result of an inferiority complex arising from old Price System reflexes and is an insult to human intelligence. Woman is still, and for a long period will remain, the most important factor in all calculations concerning the field of human reproduction. As such, unless the goal of the human race is self-destruction, she must receive the recognition due this importance.

—George D. Koe

(Reprinted from Technocracy, A Series, No. 13, August, 1938.)

The People's Choice

LET'S GET OUT THE VOTE—The qualifications of the American public to choose the chief executive upon whose shoulders rests a prime portion of the responsibility for the operation and future of this highly complex civilization, were demonstrated recently in the Massachusetts primary election.

Six per cent of the state's two million six hundred thousand registered choosers exercised their prerogative at the polls. People's Choice for President included the following, some of whom are rather prominently preoccupied at the present time: Grace Kelly, International Bride; Cary Middlecoff, Golfer; Richard J. Cushing, Archbishop; Rocky Marciano, Heavyweight Boxing Champion; Charles A. Lindberg, Flier, and the not-too-recently-deceased Senator Taft.

Collective Enterprise vs. Private Enterprise

WASHINGTON—A broad study is being made within the Eisenhower Administration of how to meet the Soviet Union's stepped-up economic campaign against the capitalistic countries for world markets and friendship.

Short of war, President Eisenhower and Secretary of State Dulles consider the broadened Russian effort to undersell and overbid the free nations in the competition to win the economic have-nots in Latin America, the Middle East, Africa, Asia and the Far East, is the most dangerous Communist threat launched against the West.

Private enterprise concerns cannot compete in world markets against the massed economic power of the U.S.S.R. While the U. S. government could meet the challenge, its present leaders hesitate to do so because of their fear it would mean increased socialization of this country.

Dulles and his associates are torn between a hope that Russia lacks the resources to make good on the economic commitments she has made and is preparing to make, and a fear that she may have them.

There is no agency in the U. S. government geared to meet the Soviet economic challenge. The State Department is concerned principally with political problems; the Defense Department handles the Communist military threat, and the U. S. Information Agency the propaganda warfare. But there is no department devoted to thinking through the full scope of the problem, either from the viewpoint of what the Soviet Union is up to or how to meet the campaign.

The United States is not proceeding currently on a grand design of its own that calls for positive action to offset this Communist drive. Consequently, the search for methods is more difficult because it has not been determined what they are supposed to achieve.

Administration officials have thought of going into foreign projects which the Russians have been interested in and offering to match anything they proposed to do. But this has been rejected on the theory it would imply that U. S. and U.S.S.R. purposes were the same, rather than the former's being disinterested and the latter's selfish. Instead, this government tries to warn the impending recipient of Soviet largesse.

The warning runs like this: Don't you realize the Soviet Union wouldn't do this unless it saw great gains for itself? A government doesn't offer to lift up the economic levels of other people when the condition of its own people is so low as that of the Russian people. It is obvious that there are hidden strings to the Russian offer and these strings are the "technicians" who will be sent in to subvert your politicians and your government.

The Soviet economic campaign was foreshadowed by Premier Stalin in the last state paper he wrote before his death. He dealt with the economic difficulties the capitalist world would have to face within itself and outlined the difficulties Russia could inject by just such economic warfare as has been initiated.

Significantly, when the World Bank negotiates a construction loan at 5 per cent, Moscow offers one at 2 per cent.

Soviet leaders are building the U.S.S.R. into one of the great industrial nations of the world from what was not so long ago an agrarian state. In doing so they are impressing mightily the people of Asia, Africa and South America, who find themselves in the condition Russia used to be in.

The Soviet salesmen are saying to them: "See, we did it and we will show you how."

What makes solution difficult is that the Eisenhower Administration is divided within itself about what to do.

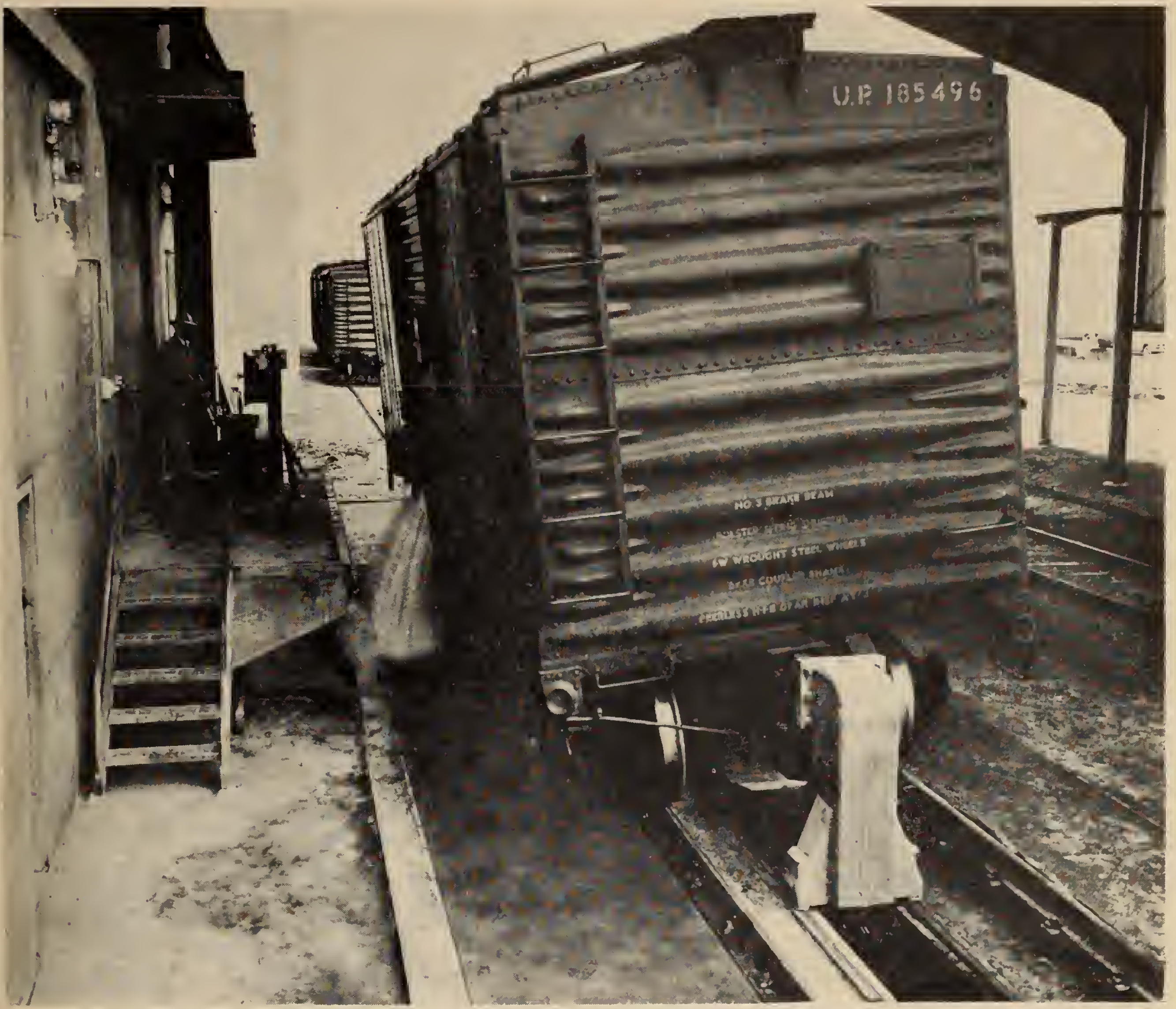
—Newark Sunday News

Survival Techniques

'EVACUATE OR DIE,' the theme song of the Civil Defense, hit a sour note when five hundred doctors met recently at the University of Washington to discuss disaster survival techniques.

Apparently one of the speakers, Colonel Warner F. Bowers, Chief of Surgery at Brooke Army Hospital, wasn't tuned in because he labeled the present plans for coping with nuclear disaster as an example of 'muddle-headed and naive thinking.'

Doctor Bowers commented, 'Plans are that, should a nuclear attack be launched on San Francisco, people are to get into their cars and start across Golden Gate Bridge. Seventy-two hours later, as the last car starts across the bridge, the first will be entering Salt Lake City.' Box lunch, anyone?



An entirely new concept in boxcar unloading — the Kar-Flo.
(Photo courtesy Link-Belt Co.)

Boxcar Unloader

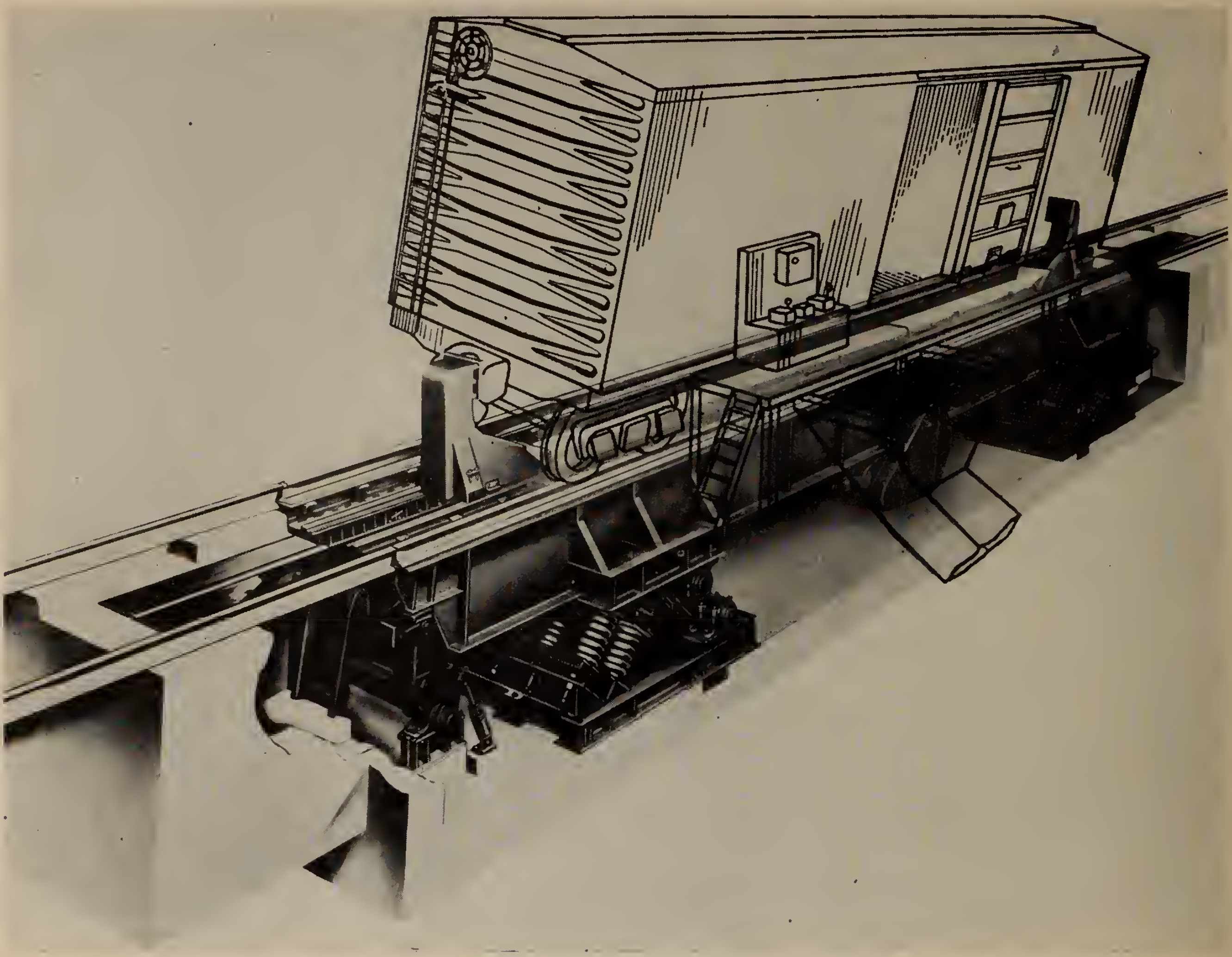
A COMPLETELY new concept for the unloading of railroad boxcars of grain or other free-flowing bulk materials—by means of a gentle oscillating or rocking motion—has been announced by Link-Belt Company.

The new Link-Belt boxcar unloader, known as the Kar-Flo, locks 150,000-lb. loaded cars in its grasp on a steel platform and, by a gentle oscillating motion of only three inches at the ends of the cars, empties them at a rate of up to four cars per hour.

Unlike the company's higher capacity grain car unloader which empties a car by tipping it endwise as well as sidewise, the new unloader depends entirely upon oscillation and an approximate eight-degree side tilt of the car to empty it.

The new oscillating unloader is safer and faster than manual unloading and does not injure the car. The new device requires an unloading pit only seven feet three inches deep.

Like an iceberg, most of the new unloader is out



Like an iceberg, most of the Kar-Flo is out of sight.
(Photo courtesy Link-Belt Co.)

of sight. The visible portion consists of a pair of rails mounted on a platform next to the receiving hopper, and an operator's platform upon which the control center is placed. The rail furthest from the operator's platform is eight inches higher than the nearer rail and produces the necessary eight-degree side tilt toward the receiving hopper. The approach rails slops gradually and approximate the bank of a standard railroad curve.

With the new Kar-Flo boxcar unloader, when a boxcar is moved to the platform, two hydraulically-operated car clamps rise from between the rails, move toward the ends of the car, quickly center it and lock it securely to the car platform to prevent endwise movement.

The car door on the unloading side is opened and the inner door removed. Locks on the platform are released, and the drive is started by pushbutton at the control center.

Rotation of counterweights produces an oscillating motion of 140 strokes per minute. Rocker arms convert this into a controlled-path motion which is amplified by spring assemblies to about three inches at each end of the platform.

This rocking produces an actual conveying action, similar to that of an oscillating conveyor. This moves the materials from both ends simultaneously toward the center of the car. Because of the side tilt of the car, the contents flow smoothly and continuously through the door into the receiving hopper below.

Only a 25-h.p. motor is required for the main drive, because the balanced car platform utilizes the natural frequency action of the 2½-inch diameter wide coil springs. The 15-h.p. hydraulic system powers the platform locks and the car clamps.

The car platform, weighing approximately 30 tons and consisting of two 36-inch wide-flange I-beams, reinforced with gussets and X-bracings, is designed for passage of switch engines and loaded cars.

—Reprinted from Link-Belt News

VEBLEN AND HIS 'LEISURE CLASS'

Thought with depth and substance lives on despite strenuous attempts to kill it. And so, certain of Veblen's descriptive terms and observations live to plague present-day cults who believe that their indulgence in waste and their obvious social uselessness is demonstrative of their social superiority.

THORSTEIN B. VEBLEN may be accredited with making among the first and most penetrating studies of the antics and behavior of the leisure class, which are embodied initially in his writings entitled, 'The Theory Of The Leisure Class,' published in 1891. The book, which is an economic criticism of age-old leisure class concepts of its superiority, has become a classic, and its effect upon social thought has been considerable. As an immediate aftermath of publication, 'Veblenian' clubs sprang up throughout the country, attacking the pompous stupidity of the leisure class, and spawning many writers who adopted Veblen's economic terminology. But practically all of these writers have faded into limbo, either by reason of natural causes or under the impetus of the 'red scare.'

However, thought with depth and substance lives on despite strenuous attempts to kill it. And so, certain of Veblen's descriptive terms and observations live to plague present day cults who believe that their indulgence in waste and their obvious social uselessness is demonstrative of their social superiority.

Born of Norwegian parents in Valders, Wisconsin, July 30, 1857, Veblen partook of the clannish attitude of the Norwegian communities in which he lived until he was seventeen years of age. At that time he entered Carleton College in Minnesota, later pursued his graduate studies at Johns Hopkins, and was awarded his Ph.D. by Yale University.

Upon his entry into the teaching profession, his troubles became many and varied. There was no place for Veblen and his skeptical views for some time in the academic world. His rustic manners and acid tongue caused him to be fired from many teaching jobs, including his first, at $520 a year, with the University of Chicago.

Though Veblen may be remembered most readily for his 'Theory Of The Leisure Class,' he also wrote a number of other books, among the later of which was 'Engineers And The Price System,' published in 1920. Veblen became associated, shortly after World War I, with Howard Scott, then Director of the Technical Alliance, which was basic to, and preceded, the formation of Technocracy Inc., of which Howard Scott is now Director-in-Chief.

Veblen died on August 3, 1929, only a few weeks before the social system which he held in such high contempt experienced a severe jolt, bordering upon total collapse, from which it has never recovered.

In 'The Theory Of The Leisure Class,' most of Veblen's dominant ideas are expressed through his terminology. The term 'invidious distinction,' for example, runs through the entire book, and applies to the differentiation that took place between the industrial nature of employment of the woman, and the predatory occupation of the man in the lower stages of cultural development. Veblen found the origination of the leisure class, with its concepts of ownership, in the social stages of barbarism and savagery. But in observing the higher barbarian culture, Veblen saw a more distinct characterization of the features of leisure employment, which involve the offices of warfare, religion, government and sports, with which the leisure class is primarily concerned. Pursuit of these occupations connotes superior rank and greater honor, while industrial occupations are considered dishonorable. With reference to sports—Veblen said that football bears about as much relation to physical culture as a bull fight to agriculture.

Predatory habits are due to the motivation to emulate, or to the strong incentive to equal or outstrip others in the acquisition of goods and property, Veblen asserted. This propelling force for social approval basically is responsible for the rise of the leisure class. However, the methods of satisfying the desire for group approval have advanced from using brute force to obtain wealth to more peaceable methods with technological progress, which enables the leisure class to acquire physical evidence of wealth and prestige without a club. Thus he explained the term 'pecuniary emulation,' the display of wealth to ape others of the established leisure class.

Leisure class doctrines apply a mark of superiority to those who abstain from contributing to the industrial processes and who are still able to maintain a higher station in life. Leisure is evidence of pecuniary strength, the means to consume goods and services without contributing to the actual production. All industry must, by leisure class standards, be looked down upon as unfitting for men of honor, whereas those who partake of leisure and cultivation of leisure activities are able to relegate their thoughts and actions to a higher plans, enabling them to lead an infinitely more 'spiritual' life. Above all, the practice of leisure requires large expenditures of time, which is put to the end of obtaining proper leisure class decorum. It is emphasized that 'conspicuous leisure' is not for enjoyment, but is a preoccupation of the leisure class for which one must undergo rigorous training. (The training of children of royalty throughout the world, and American 'upper crust' finishing schools for producing 'debutantes' are examples of current practices along this line.)

A Means to Social Prestige

Veblen, in his study of motives of consumption, concluded that the gentleman of leisure uses the consumption of expensive goods in extravagant quantities as a means to social prestige. He cited this motivation as the reason for the expensive parties and gifts that leisure class members lavish upon one another. These activities are not born out of generosity but are purposeful, in that they aid members of the class to maintain their social standing.

Vicarious leisure and consumption is represented in the leisure class cult in the consumption of goods and time by servants at the expense of the master. Veblen used the wife as a pertinent illustration of this point. Her apparel makes evident the consumption of material which neither beautifies her nor makes her attire practical. The general design of her clothing makes obvious the inability of the wife to enter into productive pursuits dressed in such a manner. It shows the ability of the master to pay, which is the point. According to Veblen, the ecclesiastics occupy the same position as the wife, consuming time and goods in the name of God, the Master.

Because of the gross waste of the leisure class, Veblen contended that the increase in industrial efficiency had not been of appreciable aid in improving the lot of persons in lower economic brackets; and that because of the drive to emulate, every segment of society tended to increase waste to the point that human toil had not lessened with technological advances. (Veblen could not foresee our day, when the most fantastic orgies of waste could not stem the flood of abundance from North America's industrial machine, a day when even the 'working stiff' would be cajoled and high-pressured into going hopelessly into debt to consume the gadgets and shacks of modern Americana, as a last ditch effort to prevent the arrival of intelligent and efficient management of the North American economy.)

In his discussion, Veblen contended that the social attitudes perpetuated by the leisure class constitute the great impasse to social advancement and yet, paradoxically, are partly responsible for social progress.

Customs of dress and general taste for furnishings are nothing more than demands of tradition, and would not otherwise be tolerated. He remarked that, considered simply in their physical juxtaposition with the human form, the high gloss of a gentleman's hat or of a patent-leather shoe has no more of intrinsic beauty than a similarly high gloss on a threadbare sleeve, and that it is extremely doubtful if anyone could be induced to wear such a contrivance as the high hat of civilized society, except for some urgent reason based on other than aesthetic grounds.

The conservatism of entrenched philosophic institutions are responsible for social inertia. Veblen attacked religious beliefs as being hindrances to the solution of existing problems of the modern world. From his point of view, the persistence of these beliefs in a superior force has no place in the matter-of-fact world of industrial activity. The archaic idea behind worship is subserviency. Religion, being a part of the ritual of the leisure class, perpetuates predatory behavior patterns of mankind by supporting the invidious distinction practices of the class. The classics were attacked by Veblen because such learning tends to derange the aptitude of the individual for employing his workmanship instincts, he said.

Organization of Learning

Veblen passed out some back-handed credit to the leisure class, pointing out that it has been through the efforts of the leisure class that the process of learning became organized. The priestly element of the leisure class first set upon the development of learning, primarily for the purpose of enhancing its own position through the organized use of ritual and magic. These practices became learned procedures. In the course of events, the knowledge and methodology of the leisure class were transmitted to the industrial classes, who made practical use of the information.

With the spread of organized education in the social structure, women went into the teaching profession, starting at the kindergarten level to teach to children in their formative years the type of discipline that generates an interest in the process of living which is not centered in themselves. The woman, ordinarily uncomfortable in the atmosphere of the leisure class, thus sought and found a vent for her basic attitudes, condoned by the leisure class. Veblen saw this development as a threat to the concepts of ownership and superiority upon which the leisure class rests.

The 'instinct of workmanship' referred to by Veblen is defined as a prideful belief in efficiency and an uncompromising hatred of futility, a force which has been asserting itself more strongly, as the tempo of modern technology draws more members of the leisure class into the industrial activity of society. With the enlargement in the scope of the attitude of pride in workmanship, a more socially conscious pattern of living emerges, permitting easier adjustment to complex social problems.

A great many of the army of misinformed critics of Technocracy have attributed Technocracy's beginning to Veblen's influence. Technocracy is the result of engineering analysis of social development in North America. Veblen was an economic philosopher, not an engineer. While many of Veblen's social observations are acute, they have been lent far more substance by subsequent scientific analysis than they were capable of generating by themselves.

Veblen espoused social operation by technological governance after he became associated with the work of the Technical Alliance which was then formulating the concept, Technocracy. He died only a few years before Technocracy was to receive national and international attention and acclaim. Being the type of individual that he was, no doubt he would have been the first to discount contentions that he was responsible for Technocracy.

Every age and every civilization to date has shown that the reason for class distinction has been the scarcity of the material needs and wants of living. The more acquisitive—not the more intelligent—always got the most of what there was to get, and then imposed their will upon the less fortunate, which always constituted the majority.

In his 'Theory Of The Leisure Class,' Veblen perceived certain undermining effects upon the leisure class which were concomitants of the use and development of technology. But that it would decree abundance and distribution of goods and services without price was for this age to discover; and that social change would come so rapidly and be met by such indifference might have been inconceivable to earlier social thinkers.

Yes, Technocracy gives due credit to Veblen as a leading social thinker of his day, a pioneer with nerve to state his views and pay the price rather than compromise. But Technocracy—this is primarily the product of Howard Scott, who was able to synthesize a technological problem with a technologist's perspective for all of North America. And that's the way it's going to be, come hell or high water.

—12247-1

SCIENTISTS IN THE NEWS

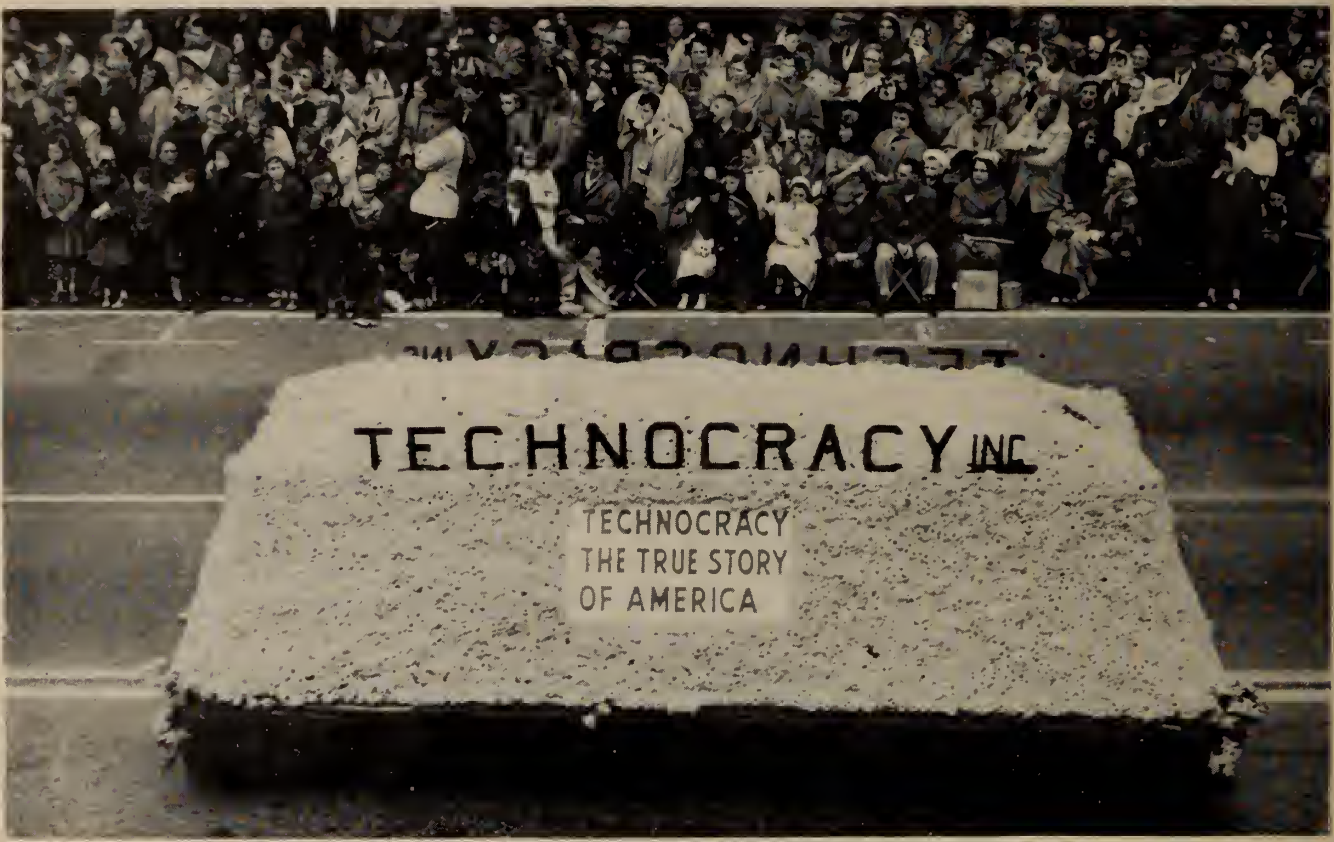
During April, two American scientists received great acclaim for their contributions to man's useful knowledge. One of these, Dr. Jonas E. Salk, still in the prime of life, was praised for being instrumental in making a decisive contribution to the control of a tragic and disheartening disease, poliomyelitis. The other scientist, Dr. Albert Einstein, was briefly remembered on the occasion of his death. In a way, both of these men were traitors to the American Tradition: neither of them sought personal wealth through gouging the public. Both rose to fame through devotion to experiment and reason; for this, they will never be forgotten, and never fully forgiven. Such men, in a world of moron values, are destined to be lonely men.

The morons, incapable of creative works of their own, stampede to get into the act of those who happen to be drawing the spotlights. Thus, the politicians, the professional sentimentalists, and the voicers of public opinion stumbled over each other in their haste to pay tribute to Drs. Einstein and Salk, hoping to serve as reflecting mirrors for the glory of others. The most pathetic sight is the array of bewildered, black-robed claimants to all Knowledge and Wisdom forlornly standing by, neither effectively able to get into the act themselves nor able to explain why such knowledge was 'revealed' through 'heretical materialists' instead of through Anointed Agents.

—Techno Critic in Technocratic Trendevents

TECHNOCRACY IN THE FIELD

The Members of Technocracy apply their efforts in various ways to bring to the attention of all North Americans the significance of the present social trends and the need for a technological solution to the problems which arise out of them. They realize that only through their activities and efforts is the public made aware of Technocracy's Program.



Daffodil Festival

THE MEMBERS of the Tacoma Section of Technocracy Inc., where a float is entered in the Daffodil Festival annually by the Technocrats, worked hard and long to prepare their entry.

It took thousands of daffodil blossoms to make the float shown in the pictures accompanying this write-up. After the construction of the framework, each blossom had to be tucked into place the night before the parade in order for the flowers to be at the peak of their freshness.

Literature was given away by members on foot along the parade route, where crowds were estimated at 200,000 persons. The event was also televised and seen by many thousands more. The announcer this year, on seeing the large monad on the front of the float, said, 'Those of you who are familiar with this emblem know to whom this next float belongs.'

The parade route covers Tacoma, Puyallup, Sumner and Auburn, the area where the bulk of the Continent's daffodil bulbs are grown.

Front view of float.

MY TWO CENTS WORTH

It looks to me like our country is in for some more trouble on account of all this talk about peace that is going around. Nobody seems to want another war, except only a few, and even the Russians are trying to be friendly. Peace is not good for prosperity, because then we make more things than the people will buy and we have strikes and layoffs and maybe a depression. It is only when we have a war and everybody is making big money that we have prosperity, because then most of the things we make are being dumped in the ocean or somewhere instead of being sold to the customers. It seems funny to me, but if you have a lot of money and can't get hardly anything for it you have prosperity, but if you don't have much money and can get a lot for it you have a depression.

Of course, the way to get prosperity back is to have another war, but times have changed so that even wars aren't what they used to be. Besides, who could we fight? We can't fight Germany, or Spain, or England, or Japan, because they are our allies now, not our enemies; and I think we are afraid to fight Russia or China because they won't fight the way we want them to and they might lick us. No other country is big enough or civilized enough to give us a good war. Then, with all those hydrogen bombs and things like that, wars are getting so they ain't safe anymore.

In some ways, peace is nice, but it sure isn't good for prosperity. It seems to me there ought to be some way to have both of them together; but our government don't seem to know how to make it work out that way. I guess we are going to have to decide which we would rather have, peace or prosperity. But I don't think they will let us vote on it, because on important things like that the people might make the wrong choice.

— Ima Moron

SPEECH OF WILL ROGERS TO INTERNATIONAL BANKERS ASSOCIATION, NEW YORK, 1922

Loan Sharks and Interest Hounds:

I have addressed every form of organized graft in the United States, except Congress. So, it is naturally a pleasure for me to appear before the biggest. You are, without doubt, the most disgustingly rich audience I ever talked to, with the possible exception of the Bootleggers Union, Local No. 1, combined with the law enforcement officers.

Now, I understand you hold this Convention every year to announce what the annual 'jip' will be. I have often wondered where the Depositors hold their Convention . . .

I see your wives come with you. You notice, I say 'come,' not 'were brought.'

I see where your Convention was opened with prayer; and you had to send outside your ranks to get somebody who could pray. You should have had one debtor here; he would have shown you how to pray. I noticed that in the prayer the clergyman announced to the Almighty that the Bankers were here. Well, it wasn't exactly an announcement. It was more in the nature of a warning. He didn't tell the Devil; he figured HE knew where you were ALL the time.

I see by your speeches that you are optimistic about the business conditions for the coming year. I don't blame you—if I had your dough, I would be optimistic, too.

Will you please tell me what you do with all the vice-presidents a bank has? Why, the United States is the biggest business institution in the world and they have only one vice-president, and nobody has ever found anything for HIM to do.

I have met most of you as I come out of the stage door of the Follies every night. I want to tell you that any of you who are capitalized under a million dollars needn't hang around there. Our girls may not know their Latin and Greek, but they certainly know their Dunn & Bradstreet.

You have a wonderful organization. I understand you have ten thousand here; and, with what you have in the various federal prisons, it brings your membership up to around thirty thousand.

So, goodbye, Paupers! You are the finest bunch of Shylocks that ever foreclosed a mortgage on a widow's home.

DEVELOPING TRENDS

THE CROCKETT CRAZE

Davy Crockett died for the first time 120 years ago.

He was to die twice again: Once on the Walt Disney television program—although he was subsequently revived—and early last winter when the Davy Crockett craze collapsed and left uncounted grosses of merchandise on merchants' shelves.

The first demise at the Alamo made him a martyr; the third left him an inventory liability. In last 1955, Davy Crockett was remembered less for the Alamo than he was for unsold T-shirts, raccoon caps, toy guns and ladies' panties.

By early last spring, as a result of Disney's program, he was the center of a merchandising program unique in history.

Some historians may insist that Davy was an unwise drinker, a less than deadly marksman except with a shot glass, and a legislative buffoon. But from last spring to early winter, the Disney program spurred sales of an estimated 100 million dollars of Davy Crockett items.

There was a Davy Crockett something for everybody. By last June, Walt Disney Productions, Inc., had issued 59 licenses for the manufacture of Crockettry. There may have been more.

The price of raccoon tails, a year ago a drug on the market, rose from 25 cents per pound to $6—and in some cases $8—to satisfy the demand for Davy Crockett caps. An estimated four million records of "The Ballad of Davy Crockett" were sold. Some merchandising authorities figured the year saw 3,000 different Davy Crockett items on sale, including such things as towels, telephone sets and plastic ice cream cones.

More than 14 million Davy Crockett books were sold. Sixteen versions of the Crockett ballad were recorded, not including the "Davy Crockett Mambo."

Then, suddenly and for no apparent reason except that even the kide were tired of it all, the Davy Crockett craze died, leaving merchants from coast to coast with vast oversupplies of raccoon tails and mambo records.

—Newark Sunday News

—Despite one of the biggest business promotion attempts America has ever seen, it didn't take the public long to get tired of raccoon tails. We wonder just how long it will take for them to tire of the cause of such wholesale promotion of idiotic fads—the Price System.

IKE, BOARD DON'T AGREE ABOUT BOOM

WASHINGTON—While President Eisenhower was sending his "boom will continue message" to Congress, several men who guide the prosperity of the nation were in a white marble building a few blocks away, worrying about the same boom.

The men were members of the federal reserve board and they were deciding to ease tight credit controls in order to spurt a little more inflation into the economic picture and keep the boom from deflating.

In other words, while the president was saying one thing, the federal reserve board was acting as if it were afraid of just the opposite.

—Oregon Journal

200,000-FARMER EXODUS REPORTED

DENVER—Charles F. Brannan, secretary of agriculture in the Truman cabinet, said he has received "fairly reliable estimates of over 200,000 farmers in the United States going broke and getting off the land last year."

Brannan, visiting Gov. Ed C. Johnson here, did not disclose the source of the estimates. He added that the number of farmers "going broke" isn't as obvious as it was in 1933 because most of the changes are voluntary liquidations rather than foreclosures.

—Seattle Times

—The trend, as Technocracy has so often pointed out, is toward fewer, but larger farms.

URGES ACTION TO EASE SHOCK OF AUTOMATION

LANSING, Mich.—This state's legislature has before it a unique proposal from dynamic young Governor G. Mennen Williams. He urged creation of a standing state commission to help labor and industry meet the problems arising from automation—that is, displacement of men by push-button machines.

The commission would have equal representation from labor, management, the public and government agencies having to do with the industrial field. Williams asked a $100,000 appropriation to finance its work.

This new body, he said, would study the impact of automation, and seek to cushion the shock. Among other things, it would provide courses to retrain displaced workers in new skills, seek travel allowances to permit such workers to move to new areas, and help in diversifying the state's industry.

Williams warned that automation can be a blessing or a curse, depending on how it's handled.

"If we sit back on our hands," he said, "it can mean the worst dislocation of our citizens in history. It can mean greater want in the midst of plenty, worse maladjustments and more discontent. Or it can mean—and we must determine here and now that it shall mean—the greatest abundance, the greatest plenty of the good things of life for all our people."

—Labor

LACK OF SCIENTISTS BLAMED ON SECURITY PROBES

ST. LOUIS—Quincy Wright, author and history professor, said recently one reason the United States lags behind Russia in training scientists is excessive investigations and security requirements for scientists in public service.

"The circumstances have convinced many potential scientists that science, and in particular nuclear physics, is not a safe occupation and that if one is a scientist, it is better to keep away from the government," he said.

Wright, from the University of Chicago, addressed the annual meeting of the American Association of University Professors.

—Seattle Times

U. S. SCIENTIFIC CROP ONLY HALF OF NEEDS

America last year produced just half of the scientists and engineers needed to fill available jobs.

This was the pessimistic report to the City Club recently of Dean F. A. Gilfillan of the Oregon State College School of Science.

Gilfillan said America in 1955 turned out about 25,000 scientists and engineers for about 50,000 waiting jobs. In the same year Russia produced about 50,000 engineers.

Why is this country falling behind?

Gilfillan gave several possible answers:

Because of a bad press, high school students picture scientists as "long-haired men in sweat shirts."

Too many high school basic science courses are both dull and difficult.

It's tough to obtain good science teachers. In 1955 just 2000 teachers were available for 5000 positions.

But Gilfillan noted a bright spot in an overall dark picture.

At Oregon State College, at least, there was a 42 per cent increase last fall in registration of science students. He noted a resurgence of interest in the past three years in both science and engineering at the Corvallis institution.

Why?

Gilfillan credited news stories about the engineer shortage with doing some good.

The Oregon museum's activities, such as geology trips for prep students and statewide science fairs and exhibits, have generated interest, he said.

And, he added, a new organization, Scientists of Tomorrow, is creating further interest, through plans to establish a summer science "camp" similar to those in the 4-H field.

—Oregon Journal

TAXES SIPHON WAGES

NEW YORK—The Tax Foundation reported Americans now work 3½ days for themselves each week and the other 1½ days for the tax collector.

The foundation, a private research organization, came up with those facts on how the pay check goes following a survey of tax effects on the 40-hour week.

A man earning $85 a week, which the foundation says is close to the average full-time pay in private industry, works one eight-hour day for food, seven hours to pay his housing costs, three hours for his clothing and two hours for medical expenses. Other outlays use less than four hours pay.

Taxes—federal, state and local—take the biggest single bite out of the work week, 12 hours, or half again as much as goes for food, the next most costly item in laboring time.

—The Oregonian

—This is our cost for maintaining an outmoded system. Armaments, subsidies, and foreign aid are all a part of the maintenance of an artificial scarcity where abundance is fast moving in.

BELL ANNOUNCES NEW PHONE TUBE

NEW YORK—A new high-frequency transistor, with many potential applications in weapons, television, radar and telephone, has been announced by the Bell Telephone Laboratories.

Transistors are the tiny wafers of rare germanium or silicon, encased in plastic, which can do most of the things a bulky vacuum tube does now—and do them better.

Bell said the new device, called a diffusion transistor, could amplify 2,500 telephone conversations at once on a telephone line, about three times as many as the best previous transistor can handle.

—Everett Herald

USE OF PLASTICS UP SHARPLY

ATLANTIC CITY—An 80 per cent increase in the use of reinforced plastic materials since 1954 was noted as the eleventh annual technical and management conference of the Society of the Plastic Industry's reinforced plastics division opened.

Use of 49,000,000 pounds of reinforced plastics in 1955 compares with a figure of 27,000,000 pounds the year before. For 1956 the forecast is 73,000,000 pounds.

Industry spokesmen also reported increases in the use of other resins, such as the epoxies, low-pressure phenolics, melamines, silicones and fluorocarbons. In actual use, their reports noted, fibrous glass-reinforced polyesters lead all reinforced plastics.

One exhibit held in conjunction with the three-day conference contains displays of a variety of products demonstrating new techniques, materials and designs evolved during the last year in the ten-year-old industry.

Among these are fifteen boat hulls, produced at costs lower than would be possible by any other method through use of high preform and press moulding equipment, and plastic patches for use on reinforced plastic car bodies, metal car bodies, boats and navy ships.

—New York Herald Tribune

'ROBOT REVOLT' ON IN BRITAIN

LONDON—Britain's "robot revolution" stirred up a labor crisis.

Twelve thousand automobile workers in Coventry struck in protest against the installation of pushbutton machinery. A second strike involving 1,500 workers flared in a tire factory in Scotland.

There was no violence, but engineers installing the new automation machinery in the auto plant were unable to pass through picket lines.

—Seattle Post-Intelligencer

—This indicates that the British worker is aware that machines do not create jobs. He is either smarter than the American worker or he has not been misled by propaganda.

TEST TUBE YIELDING TO ELECTRONIC TUBE

NEW HAVEN—The test tube, a relatively fragile thing that costs a few cents, is giving way in the chemistry laboratory to massive electronic equipment running into thousands of dollars, Yale University scientists say.

This development reflects the increasing interdependence of modern chemistry and physics, according to Julian M. Sturtevant, Professor of Chemistry and Associate Director of the Sterling Chemistry Laboratory at Yale.

Many activities in a typical chemistry laboratory can equally well be called either physics or chemistry, Professor Sturtevant says.

Such recognized terms as physical chemistry and chemical physics, or biochemistry and biophysics, illustrate the impossibility of completely compartmentalizing activities in the various sciences, he holds.

The electronic equipment used by chemists has introduced a degree of automation into the laboratory. Measurements that once had to be made and laboriously recorded by hand are now done more accurately and more rapidly by automatic instruments.

—New York Times

—The recognition that there is only one science becomes more pronounced with each development in the research field. Thus another of Technocracy's statements is vindicated.

NEW TYPE COAL BURNER

MONTREAL—A new engine that could revolutionize the railway industry by cutting operating costs, saving the railways perhaps millions of dollars a year, is now in the advanced stage of experimental development here.

This engine is no fantasy or pipe-dream; it has already proved itself in experimental operations in the research laboratory, and it is hoped that an experimental engine may be on the road in Canada within two years.

Experimental work on the engine, which is the world's first coal-burning gas turbine job, is being carried on in McGill University's gas dynamics laboratory at nearby St. Anne de Bellevue.

The big advantage of the engine to the railways is that the new locomotive can use the lowest grade coal and get more power out of it than its steam-driven counterpart.

It's been estimated that the gas-turbine can utilize up to four times as much of the energy produced by coal than can the steam engine.

Estimates place the savings of the gas-turbine over a diesel engine at $50,000 per locomotive year for each unit.

But there are other advantages, too, for the railways if the engine can be brought into practical operation.

Maintenance cost would be low and the engine's life would be relatively long because it has only three major moving parts, compared to the thousands of moving mechanisms in a diesel locomotive.

Another advantage is that the engine increases in efficiency in cold weather, providing extra energy for winter hauling. This contrasts with the reduced hauling power of the diesel locomotive under winter conditions.

The cost advantage can be seen from the estimate that a coal-burning gas turbine locomotive could haul passenger and freight trains four times as far as a steam-powered unit with the same amount of coal.

Another problem the engine eliminates is the stops for taking on water. The new turbine locomotive would not require water except to run the engine's whistle.

Work on the new turbine began at McGill in 1950, financed by a $300,000 grant from the Federal Department of Mines and Technical Surveys.

It is understood that at least one of the Canadian railways has also contributed financially to encourage the project. The bituminous coal used in the experiments is being donated by the Dominion Coal Co. from its Cape Breton pits.

There are still a few obstacles to be overcome before the engine is ready for a trial run on Canadian rails. One of these is the problem of developing a long-lasting furnace.

Another drawback that will have to be eliminated is the engine's high fuel consumption during idling, which makes it impractical for railroad switching operations.

Directing the experiment is Prof. Donald Louis Mordell, chairman of McGill's department of mechanical engineering.

Prof. Mordell believes it is important that a national transportation system does not have to depend solely on oil, especially because of the great demand on oil in times of national emergency.

Canada has the coal capacity to power the country's railways, and an efficient engine such as the experimental gas-turbine may hold the answer to many of the problems inherent in railway locomotion.

The coal-burning gas turbine operates on principles similar to the aircraft jet engine. Cold air is sucked in, compressed, heated and blasted against turbine wheels. The compressed air is heated by crushed coal, burned in a filing-cabinet sized container.

—The Railway Clerk

U. S. INFLUENCE DIPS IN MIDEAST

ROME—The controversy about military parts shipped to Israel and tanks shipped to Saudi Arabia has revealed a new weakening of American influence in the Middle East.

The illusion that we control the flow of arms is fading fast.

Almost the only effective role left for the United States is as major financier of Israel.

About $150,000,000 will be collected this year in the U. S. by the United Jewish Appeal, of which about $125,000,000 will go to Israel.

Even this ever-increasing aid for Israel is not actually under American government control, because it is collected under private auspices.

Today neither Israel, Syria, Egypt, nor Saudi Arabia is in any way dependent on what the U. S. Congress decides. They have plenty of money or cheap cotton—only Egypt is a little short of dollars—and they can buy arms wherever they want.

The money is ready. The market is open. The controls are farcical.

Arms are available not only from the Communist factories, but from Belgium, Switzerland, and the clandestine exporters of France, Britain and Italy. Israel and the Arab states can buy wherever they like.

—New York Journal American

U. P. TO START NEW PHONE LINE

Union Pacific offices in Seattle will soon start using a new kind of telephone service. Without going through a long-distance operator, they will be able to dial any other telephone in the nation-wide Union Pacific telephone system. The system is one of the largest privately-owned in the world.

Union Pacific says it has enough telegraph and teletype circuits to reach from Seattle to the moon. D. F. Wengert, U. P. Northwestern District manager, described the new telephone service as "one of the many advances Union Pacific is making to maintain and improve its overall efficiency."

—Seattle Post-Intelligencer

PRODUCTIVITY RATE RISES

Trends of preliminary figures of studies by the bureau of labor statistics indicate that productivity of all manufacturing increased about 6 per cent between 1948 and 1955, as against about 3.5 per cent in the years before, labor and management was told at conferences in Portland.

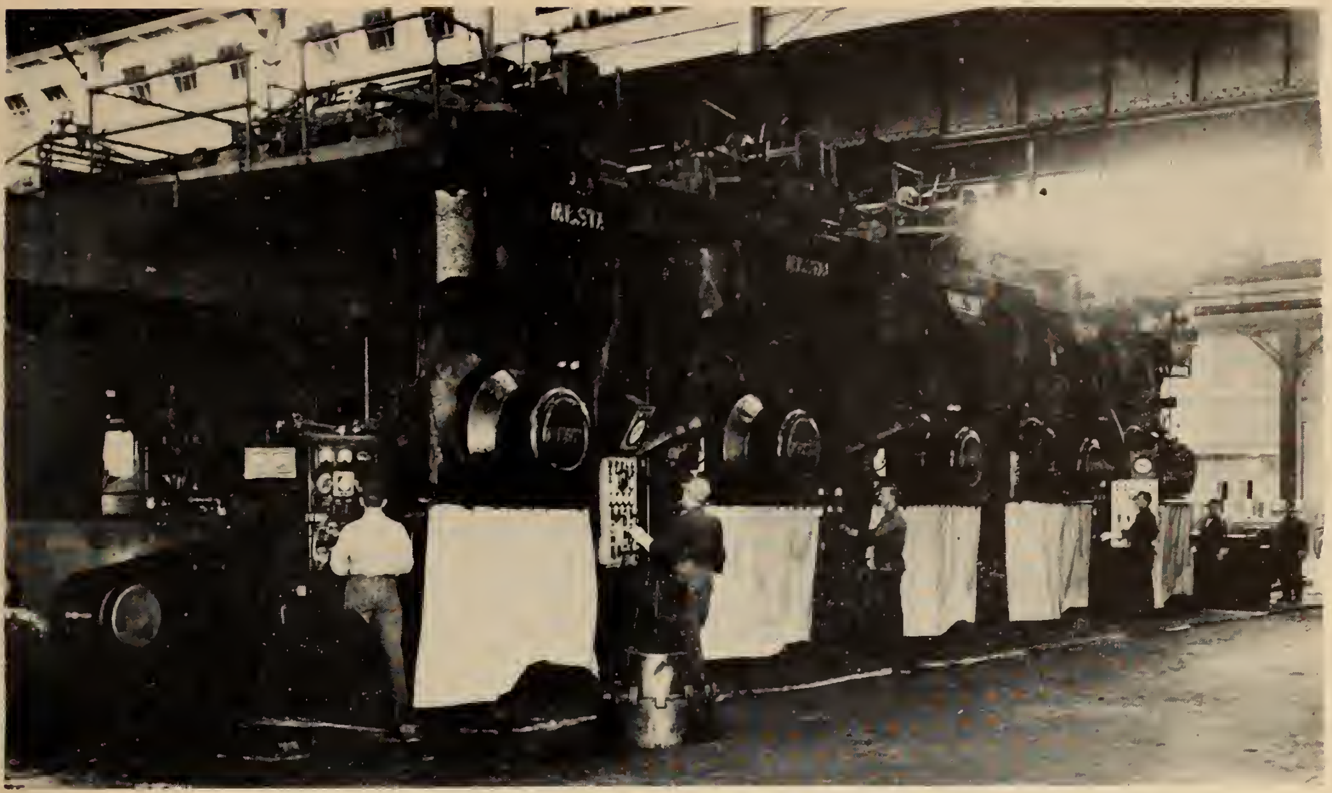
Max Kossoris, San Francisco, western regional director of the labor department's bureau, spoke to representatives of labor at the Labor Temple and to management at the Chamber of Commerce. Previously, he spoke at an educational conference of the International Woodworkers of America at the Masonic Temple.

Kossoris gave the information to both sides of the bargaining table but warned that the figures were trends and that they are not as accurate as cost of living figures. He said the increases in productivity are due in part to increased mechanization, to new plants and equipment and to some features of automation.

At the woodworkers conference, he discussed the effect of automation and said the principal problem would be to care for the unskilled and older worker. He said automation is an advanced development of mechanization because it not only does some of the work in a plant, but it also does some of the thinking men do.

—The Oregonian

—The evidence, that machines do not create jobs, is available from many sources, but by the 'thought-control' processes of the radio, press and TV the public is led to believe exactly the opposite.



The five-stand tandem mill at U. S. Steel's Irvin Works which is operated by an automatic gauge control system. (Part of which is shown on the cover.) The system permits the production of uniform strip steel at a rate of 4000 feet per minute.

Industrial Expansion Alters Life in Quebec

QUEBEC CITY — Industrial expansion that has swept Canada since the end of World War II has brought about more drastic changes in this Province than in other parts of the country.

For generations the economy of the province has been agricultural and emphasis has been on the rural family as an ideal social, religious and economic unit. The war changed all that—and much as some elements in the province would like to see a return to the pre-war social structure, it looks as if the new era is here to stay. The people are enjoying their new incomes and have developed new tastes and habits.

It took the urging of the Roman Catholic hierarchy to get Quebec women to leave their homes and work in industrial plants during the war. It was urged upon them as a patriotic and religious obligation. Now the pleas from many priests for women to leave their city jobs and return to the land has had little effect.

Many church leaders view industrialization as a soulless force breaking down the old form of Roman Catholic French society, giving in return for the old culture the general pattern of North American materialism.

The prosperity that has spread across the province during the last ten years probably will insure that the ardently nationalist anti-English government of Premier Maurice Duplessis will be returned to office if an election is called.

Leading the prosperity has been the booming mining industry.

According to the department, there are at least 50 economically useful materials in large quantities still untapped under the surface of the Laurentian plateau.

The most significant factors for the future are hydroelectric and mining developments. The province added 256,500 horsepower to its capacity in 1955. The total now stands at 8,030,300 horsepower, or more than 50 per cent of the total for all of Canada. New plants scheduled to be completed by 1962 will bring the provincial capacity to 10 million horsepower.

While the net value of production in mining has shown an increase of more than 12 per cent for 1955, the only decline is shown in agriculture, fisheries and trapping, averaging more than 5 per cent.

—Newark Evening News

Comment: In the struggle of superstition and poverty versus technology and material abundance, the people choose physical welfare ahead of promised blessings.

SCIENTIFIC RESEARCH CAN DO IT

The purported conquest of 'polio' is a potent reminder of the capabilities of science and the scientific method when applied with enough concentration on a problem. The production of atomic and thermonuclear bombs are other (perhaps less laudatory) reminders. Unfortunately, our society is fearful of change and apprehensive over the possibility of new scientific discoveries. People in general fear changes in their established modes of life; and those with vested interests fear that values may be demolished over night. Remember the panic of the electrical utility executives when the feasible production of atomic energy was first demonstrated? That is, before the Business Administration succeeded in bribing them to accept it as a gift. We can only imagine the shivers that went through the spines of the diamond merchants recently when it was announced that diamonds can now be synthesized by man.

CHURCHILL FADES AWAY

Overcome by the ravages of senility, the 'Old Tory' fades from leadership in the parliament of Britain, relinquishing the government to one who 'will never set the world on fire' nor solve Britain's fundamental problem. The most cheerful news we have heard regarding the retirement of Sir Winston is the remark that he is 'irreplaceable.' During his lifetime, Winston Churchill has committed many major blunders—more than any one man should be permitted to commit and live. One of the worst from the viewpoint of this Continent was his speech at Fulton, Missouri, in March, 1946.

Churchill's crowning glory was his position as Britain's Prime Minister during World War II. But, when one analyzes the things he did and the things he said during that period, nothing develops to justify the billing he was given. So long as reactionism rules the roost, however, Sir Winston Churchill probably will remain as a 'symbol of greatness.' It is a fitting gesture that, on retiring, he should go to Sicily for a vacation (to that 'soft underbelly of Europe' he cherished so much), there to live in a style that no Briton is permitted to enjoy at home, spending some of the ill-gotten money, acquired through the sale of British war documents to the publishers of a foreign power, which he has stashed away in foreign banks.

—Techno Critic in Technocratic Trendevents

THE PRICE OF HAPPINESS

"That fellow Gallup comes up with some highly significant findings once in a while. We were particularly intrigued by one of his recent polls which indicated that people would be happier if they had more money. You could have knocked us over with a deposit slip.

"Dr. Gallup even ascertained the exact amount of money necessary to insure happiness. It seems that seven out of ten people interviewed were willing to settle for $37 more a week. This is a relatively modest price to pay (in 1955 prices) for universal, or at least widespread, happiness. One or the other political party should certainly be willing to promise that much."

Excerpts (first two paragraphs) from "Happiness," editorial of 'Arizona Progress,' October, 1955, monthly bulletin of the Valley National Bank, Phoenix, Arizona. Herbert A. Leggett, editor.

This is sure confirmation of what Technocracy has been saying for a long time, that the American people have a "hamburger sandwich psychology"—entirely too easily satisfied on the crumbs of Price System scarcity, instead of demanding the technological abundance all North Americans could have.

RUSS PLAN SOLAR POWER-GENERATOR

BERLIN—An East German news agency reports the Soviet Union has completed plans for a sun-operated electric-power plant. Its account says solar energy will produce steam to drive a turbine and the electricity will drive irrigation pumps.

—Seattle Times

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TECHNOCRACY

North America's Only Social Dynamic

WHAT?

Technocracy is the only North American social movement with a North American program which has become widespread on this Continent. It has no affiliation with any other organization, group or association either in America ro elsewhere. The basic unit of Technocracy is the chartered Section consisting of a minimum of 50 members and running up to several hundred. It is not a commercial organization or a political party; it has no financial subsidy or endowments and has no debts. Technocracy is supported entirely by the dues and donations of its own members. The widespread membership activities of Technocracy are performed voluntarily; no royalties, commissions or bonuses are paid, and only a small full-time staff receives subsistence allowances. The annual dues are $9.00 which are paid by the member to his local Section. Members wear the chromium and vermilion insignia of Technocracy — the Monad, an ancient generic symbol signifying balance.

WHEN?

Technocracy originated in the winter of 1918-19 when Howard Scott formed a group of scientists, engineers and economists that became known in 1920 as the Technical Alliance—a research organization. In 1933 it was incorporated under the laws of the State of New York as a non-profit, non-political, non-sectarian membership organization. In 1934 Howard Scott, Director-in-Chief, made his first Continental lecture tour which laid the foundation of the present Continent-wide membership organization. Since 1934 Technocracy has grown steadily without any spectacular spurts, revivals, collapses, or rebirths. This is in spite of the fact that the press has generally 'held the lid' on Technocracy, until early in 1942 when it made the tremendous 'discovery' that Technocracy had been reborn suddenly full-fledged with all its members, headquarters, etc., in full swing!

WHERE?

There are units and members of Technocracy in almost every province in Canada, and in addition there are members in Alaska, Hawaii, Panama, Puerto Rico and in numerous other places with the Armed Forces. Members of Technocracy are glad to travel many miles to discuss Technocracy's Program with any interested people and Continental Headquarters will be pleased to inform anyone of the nearest Technocracy unit.

WHO?

Technocracy was built in America by Americans. It is composed of American citizens of all walks of life. Technocracy's membership is a composite of all the occupations, economic levels, races and religions which make up this Continent. Membership is open only to American citizens. Aliens and politicians are not eligible. (By politicians is meant those holding elective office or active office in any political party.) Doctor, lawyer, storekeeper, farmer, mechanic, teacher, preacher or housewife—so long as you are a patriotic American—you are welcome in Technocracy.

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The Dementia Of Democracy

'The citizens of the United States will shortly be called upon to give their mandates through the ballot for the perpetuation of further political moronity, for more political viciousness, and for greater political rottenness. This is the tragedy that is inflicted upon the United States by the dementia of democracy. This dementia is the profound belief held by the average North American that the multiplication of national moronity expressed through the ballot is the collective approach to divine omniscience in the solution of all our national problems.'

—HOWARD SCOTT, in 'The Dementia of Democracy'
Series A, Number 14, Technocracy Magazine,
October, 1938.

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THE NORTHWEST Technocrat

Oct ~~July~~ '56

IN THIS ISSUE:

- Man and Iron
- The Art of Loafing
- Facing Our Problems
- The Race We Can't Afford to Lose

No. 185 (Vol. XX)

25¢

Sec. 3, R.D. 12247
TECHNOCRACY INC.
Seattle, Washington

Leadership

FORMULATING THE POLICIES for the benefit of all the people in the United States of America and leading the cabinet members in administering these policies requires a leader of the highest caliber. To adequately perform this function, the Chief executive must have a knowledge of natural economics which includes a knowledge of the fundamental relationship the U. S. has with other countries, a knowledge of engineering principles, a comprehension of the vast industrial complex here in America and above all be a leader of those people who can operate the complex mechanism of production and distribution of goods and services. With a competent leader at the helm other countries would look to our country to help them solve their problems.

At present, the qualifications for being President of the United States are 1. Being able to satisfy the enterpreneurs—large and small; 2. To have a winning personality; and 3. To be able to concoct a line of chatter which will cajole the populace without telling them anything or promising anything either. All of our Presidents have had to conduct themselves within the above qualifications before being nominated. The above qualifications indicate that the political parties are not interested in having a leader in the White House, but a person who can win a popularity contest.

A capable leader must develop a national strategy and assemble a team around him which understands his concepts. This team in the absence of the President would act within the framework of that strategy.

The present President wins the popularity contest hands down, but he draws a poor rating when it comes to developing a team to carry out policy. Our President, not being cognizant of fundamental essentials of leadership, may be easily swayed, by members of his cabinet or 'representatives' of the people who have an axe to grind, with convincing oratory.

The determination of the Republican Party to run Mr. Eisenhower for a second term even in spite of his poor health in recent months is quite understandable since no other Republican standard bearer would have a chance of winning the people. It is regrettable also that no thought is given to provide a Vice-President capable of leadership. For, under the laws of the land if the President were to die, the Vice-President would become the Chief Executive. The fate of a nation should not be left to the whims of popularity winners. Rather, it should be administered by a staff of qualified and capable directors.

The aspects of a functional government might interest some of you loyal voters who do your duty every four years. Drop into any Technocracy Section and find out more about it.

—George Kellogg, 12247-3

COVER PICTURE

Monad Marker

A Monad Road Marker located on the south side of Highway 99 in the vicinity of Seattle was passed last year by more than 7,500,000 motor vehicles.

—Techphoto by Chester Carlson

OCTOBER 1956

THE NORTHWEST
Technocrat

MAN AND IRON

The total production of iron and steel during the war years of 1941 through 1945 was approximately one-fifth of the total of all iron ore mined in the years 1854 to 1944. The major portion of that iron now lies rusting on the bottoms of the oceans of the world, on islands in the South Pacific and Alaska, in surplus dumps across the Continent, or is tied up to docks in numerous ports in the form of out-moded warships.

IN MANKIND'S slow and belabored progress out of savagery, the uses to which he put the material things in his environment marked the steps he took toward civilization. His first club was, no doubt, a heavy, hardened branch from a tree; a broken or splintered bone his first punch or awl; a fruit rind or dried gourd his first vessel for food or drink; flint his first really sharp cutting edge. But the extent to which metals were put to use as tools determined how much control he could gain over his environment. From stone axe, to bronze sword, from there to the iron plowshare and automatic factory, the result has been the same—more of the energy in the environment available for human use, and the uses of the metals mark definite progress in the utilization of energy, both human and extraneous. The prime factor in this progression has been the use of iron, and the production of iron from its ore has been the most important development in human industry.

The so-called 'Iron Age' assertedly reaches back to 4,000 years or more before the Christian era, but the failure to distinguish man-made from meteoric iron obscures the date of the first use of iron from native ores. 'Heaven-sent' iron was possibly the origin of the ornaments and tools found in the graves of the Pharaohs. These bits of metal were, it is alleged by historians, more precious than gold at that time. Meteorites have been found which show evidence of having been a source of metal for ancient man. Eskimos up until the coming of the whalers used cold-pounded chips of this metal in ridges of bone for the blades of their knives. (This iron is easy to identify because of the higher percentage of nickel in it as compared to ancient man-made iron.) Thus the meteorites gave to ancient man the first steel. Because of its rarity, however, the use of meteoric iron did little to advance humanity toward civilization.

The first metal which was found and worked by man was gold, and next copper. Gold being noncorrosive was easy to find by its gleam in the natural sluice boxes of the ages—the streams. Copper was easy to see if gouged or rubbed for it also gleamed with a reddish bright color. These metals being malleable were used by man first as ornaments and then when the discovery was made that copper hardened when hammered, it was used for tools and weapons. Later when the first crude furnaces were built, tin was either present by accident or was added to copper to produce bronze and the Bronze Age began. And in this Age man received the training in metallurgy that made it possible for him to finally learn the art of smelting and refining iron ore into usable forms for tools and weapons.

Iron, it appears from the writings of Montelius in the 1900 Journal of the Iron and Steel Institute, first was used in Europe by the Greeks and the Cretans about 1400 B. C., but for the Keltics (Celts) and Teutonic peoples the Iron Age did not commence until about 500 B. C. Small, crude charcoal furnaces, or bloomeries, as they were called, were the only means that were used to

The Northwest Technocrat is published quarterly by Section 3, R.D. 12247, Technocracy Inc , 2208 Eighth Avenue, Seattle 1, Washington. Entered as second class matter July 11, 1949, at the Post Office of Seattle, Washington, under the act of March 3, 1879. Subscription rate is $1.00 for four issues. Single copy 25 cents. Continental Headquarters of Technocracy Inc are located at Rushland, Pennsylvania Entire contents copyrighted 1956 by Section 3, R D 12247, Technocracy Inc

obtain iron from the ore. (Cast iron had to wait for higher temperatures that could not be obtained by wind flues or hand bellows.) The iron resulting from this method was a spongy mass of malleable iron mixed with slag. While still red hot it had to be hammered to expel as much of the slag as possible and to fuse it into a more solid mass, thus it came to be called 'wrought iron.' In many cases this iron was very soft and tools made from it were inferior to the bronze ones already in use. At times through accidental carburizing (addition of carbon) of the iron when it came in contact with the charcoal fuel, the metal took on new qualities and by accidental fast cooling was found to have become very hard. In medieval days the Damascus swords were made of such iron, smelted in India. The quality of the metal also depended on the kind of ore and what other metals were present in the ore. The heating and cooling processes also determined the condition of the iron. But, of course, at first all this was happenstance and man had difficulty in ascertaining just what to do to make the same kind of iron twice in succession even in the same furnaces.

The use of iron was common in the early days of the Romans. The smiths at that time made many useful articles such as hinges, nails, bolts, keys, and chains, as well as weapons of warfare. Many ancient smelting hearths have been found in Carinthia. These were built in steep banks where horizontal channels could catch and cause the wind to blow upward through the fuel and ore to provide a natural blast to raise the temperature as high as possible. But when Caesar arrived in Britain he found them using implements of iron, and bars of it of definite weights for currency. Many old slag heaps have been found on the hilltops in England, a fact that suggests that the aid of the wind was used in their ancient smelting. In the histories of iron much mention is made of the using up of the forests to obtain charcoal for the furnaces. The Vikings destroyed the forests of Iceland in order to make their swords and spears, and, at different times, restrictions were ordered by the kings to save the forests of England.

First Furnaces

As the uses of iron grew, so grew the demand for more iron, and out of that necessity the crude furnaces were improved. From the use of the natural draft of the wind, the next step was leather bellows operated by hand or foot and then, by water wheel. The ore was crushed and other ingredients were mixed with it to cause it to fuse more readily, thereby making it possible to reduce more iron from the ore. Charcoal, which was very inefficient as a fuel, in time gave way to the use of coke. But the discovery of how to make coke from coal was another milestone which had to be reached. The first making of cast iron in Western Europe was delayed until the fourteenth century, fully 2500 years after the earliest making of wrought iron. The making of cannon, and particularly, the making of cannonballs, was the chief incentive to the invention of cast iron. The casting of copper and lead, known already for centuries, suggested ways to melt iron and cast it. Hence with the water-wheel for generating the needed blast the crude bloomery was developed into the blast-furnace very much like the ones still used today.

The Newcomen fire-engine was applied to the

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purpose of producing a blast for the furnaces of England but this was soon superseded by the steam engine of James Watt. Man at long last had reached an all-important place in the use of metals and fossil fuels and the ensuing onrush of new applications for the uses of iron left him dizzy with success. England rose to national greatness on the application of new machinery to industry powered by the steam engine fired by coal, and the art of mining and refining available iron ore into usable metal gave man this mighty advantage over his environment.

Use of Coke

Iron ore had been smelted in America first in 1664, with the first cast iron being made in Pennsylvania in 1730. This was, at that time, exported to England, which was suffering from a shortage of fuel, having as yet not discovered the use of coke. But with the discovery of coke-smelted iron England no longer required the iron from America. The Americans of that day were not as yet a manufacturing people and the iron they made was for the blacksmith to make axes, picks, nails, shovels and other items needed for rural domestic needs. Coal was not used until nearly ninety years after England had discarded wood as a fuel. But in 1840 with the further development of the hot blast furnace anthracite was used successfully. As if in synchronization that year there were 4,535 miles of railroad in operation. The Bessemer converter was developed in 1856 and steel making was on its way. From there the growth of the American iron and steel industry was very rapid, by 1880 amounting to 4 million tons a year, and by 1895, passing England to win first rank as an iron producer. In another decade the new continent of the west had left its European competitors far in the rear, and was producing as much iron as France, Germany, and England together.

In the ninety years from 1854 to 1944 2.2 billion gross tons of iron ore were mined in the United States. The Mesabi Range alone produced 1.3 billion gross tons in that period. The Industrial Revolution gathered momentum and riding the 'great iron-horse' and the steam-boat a mighty complex of industry surged across the width and breadth of the Continent. Wherever one might look or whatever one might touch the spectacular part played by iron in the growth of this complex cannot be disregarded. A graph of the pig-iron production becomes a barometer of the economic booms and slumps of the Continent so basic is the use of iron in the industrial processes. Transportation, communication, power development and transmission, factories to make every conceivable item, bridges, roads, buildings, everything from ocean liners to thumb tacks would not be available without the use of iron in some form or other, either in the article itself or as the machinery that fabricated it. Recognizing, then, the importance of iron in our high-energy civilization let us look closely at some statistical facts — not dull ones if we consider their implications.

The total production of iron and steel during the war years of 1941 through 1945 was approximately one-fifth of the total of all iron ore mined in the years 1854 to 1944. The major portion of that iron now lies rusting in the bottoms of the oceans of the world, on islands in the South Pacific and Alaska, in surplus dumps across the Continent, or is tied up to docks in numerous ports in the form of outmoded warships. The high degree of efficiency of World War II as a consumer of non-replaceable resources will most probably remain an unbeatable record. And this record will most probably remain a monument to that stupidity which is man's, for he has thrown the mineral wealth of a continent and the material means which assures a continuation of the highest civilization ever built, into the black maw of war.

8 Million Automobiles

Another great user of iron and steel is the automotive industry. Partly because of the vast failure of public transportation to take and keep the lead in efficiency and service to the populace and partly because the symbol of success is owning a Cadillac, it has become necessary or desirable to the citizen that he provide his own transportation. And in 1955 over 8 million automobiles were manufactured and marketed. This took approximately 12 to 14 million tons of iron and steel, not counting the retooling machinery. Consider the numbers of cars manufactured within the last ten years, most of them still usable. Throughout the continent thousands upon thousands of automobiles stand idle in used-car lots or are parked in every available space being used on an average of 2 hours or less per day. Even if handled on a full-load basis the private car cannot compete in efficiency with other more compact modes of public transportation, such as fifty-seat buses. The private automobile as a method of transporting millions of humans is a waste in natural resources which cannot be tolerated much longer. A physical limit will be reached. Either we will run out of resources or we will find nowhere to stack the vehicles.

In the delineation of the waste of iron, let us also look for a moment at the colossal duplication of effort in railway, trucking and in many manufacturing processes. Railways run parallel across the Continent for thousands of miles. The same commodities pass one another going in opposite directions. The traffic does not warrant two tracks in many cases, but within the framework of our present economic system it is considered 'good' for business to compete and millions of tons of iron are utilized in an inefficient operation. In most large cities milk trucks, laundry trucks, bread trucks, meat trucks, ice trucks, and many other service trucks call at practically every residential door and in one survey it was found that as high as twenty-five different trucks called at each city block in one single-dwelling district within a day, duplicating delivery of various commodities. Eight different milk trucks called on one block alone. The plant capacity in the manufacturing field if run on a full-load basis, that is, 24 hours a day, 365 days a year, would need to be only a fraction of what it is today.

The annual production of metal cans, which are irretrievable as scrap for the most part, used approximately 4.5 million tons of steel in 1955, or more than the total production of the year 1880. Every farm, large or small, has machinery of various kinds sitting idle for most of the year, part of it rusting away into uselessness.

Scrap Price Squeeze

Worn-out and obsolete machinery, as well as junked automobiles, are left rusting in junk yards while prices for scrap are manipulated to freeze out small collectors and handlers or to wait for better prices. Finally we come to the waste of metal through the manufacture of inferior goods. Razor blades are a good example of the practice of making goods for large turnover. It is hard to make good steel wear out after one or two shaves but metallurgists have succeeded in doing so. Your automobile, too, is designed to last but a few thousand miles so that you will have to repair it or replace it. Washing machines, refrigerators, ranges, and a host of other items are intentionally made to last but a short while.

The city of New York, because of the vast amount of iron and steel used to build the skyscrapers, will probably some day be mined for the scrap, for the office space now used to house the working of the present system of banking and finance will no longer be needed.

In the past century of growing industry, expansion westward, and two major wars, we have used almost all but the low grade iron ore of the United States and are now having to import approximately 16 million tons annually from the Quebec-Labrador deposits in Canada as well as from Sweden, Africa, Venezuela, Brazil, and Chile. The scrap consumption has been rising and during 1955 we melted up over 6 million net tons. In 1952 the estimated unmined reserves in the Mesabi Range were slightly over 854 million gross tons. Last year, 1955, the United States produced 117 million net tons of iron and steel. Within the next several years at that rate we will have long since used up all available known iron reserves. The fact becomes clear that we are not using our iron resources commensurate with what appears to be available, but are foolishly assuming that iron ore will just go on being there as we need it. We, obviously, must know better than the people of several centuries ago who thought that metals replaced themselves as they were mined, but our behavior indicates that we still think as they did. The huge iron and steel industry of this country cannot much longer produce at the rate it is without running into an impasse. We are using natural resources at such an alarming rate that other countries are now becoming aware that in order to protect their futures they must curtail the rate at which their ore is being taken. We have heeded little the welfare of our children and their future on this Continent, for we have taught them the same wanton, wasteful ways and then led them into a feeling of false security about their future. But within the next few years a reckoning will be upon us. The Price System of the United States will come to a faltering stop upon the greatest slag heap of all time and the smoking, ugly mass will be a fitting burial ground for the most moronic system ever devised by a people, who called themselves intelligent, thinking beings.

Within the boundaries of the Continent of North America there still remains enough iron ore and other minerals if used wisely to build a civilization worthy of the technical intelligence of man and to continue that era for over a thousand years. Technocracy has the design to make this New America of the future possible, a design for the distribution of abundance to all North Americans from birth to death. Just as waste is an operating characteristic of the present system so conservation would be an operating characteristic of the Technate, for the incentive of profit and financial gain would be gone. Wars for business purposes would no longer be possible. Duplication of transportation and plant facilities would not occur because there would be no competition. Factories would be operated on a full-load basis thereby cutting the plant space to a fraction of what it is now. Better methods of public transportation would be possible, and the Cadillac as a symbol of success will disappear with the arrival of a new concept of success. The full-load operation of the continental machine in connection with Technocracy's Calendar would even out the loads on all service and recreational facilities.

The rat-race that we call living today and which is gathering speed each year has us caught up in a mighty grip, but we must shake it loose and gain a new perspective. Technocracy has the information and the facilities to help North Americans to a new awareness of their environment and their future. The dinosaur is extinct. His nervous system was inadequate as a predicting device. Man has an adequate central nervous system—he can predict. The question remains—Can he act upon intelligent predictions? Upon this answer rests the fate of civilization in North America.

—Ruth M. Berge, 12247-3

NEW HARVEST

Most sewage disposal methods depend on the action of bacteria to break down the organic impurities. To accomplish this — and indeed to live at all — these bacteria need a steady supply of oxygen.

EXPLORER: Here's a crop that sounds impossible. It's harvested every two to three days. It yields 20 times as much food per acre as the average for California farms. And the soil it grows in is material that we have trouble throwing away.

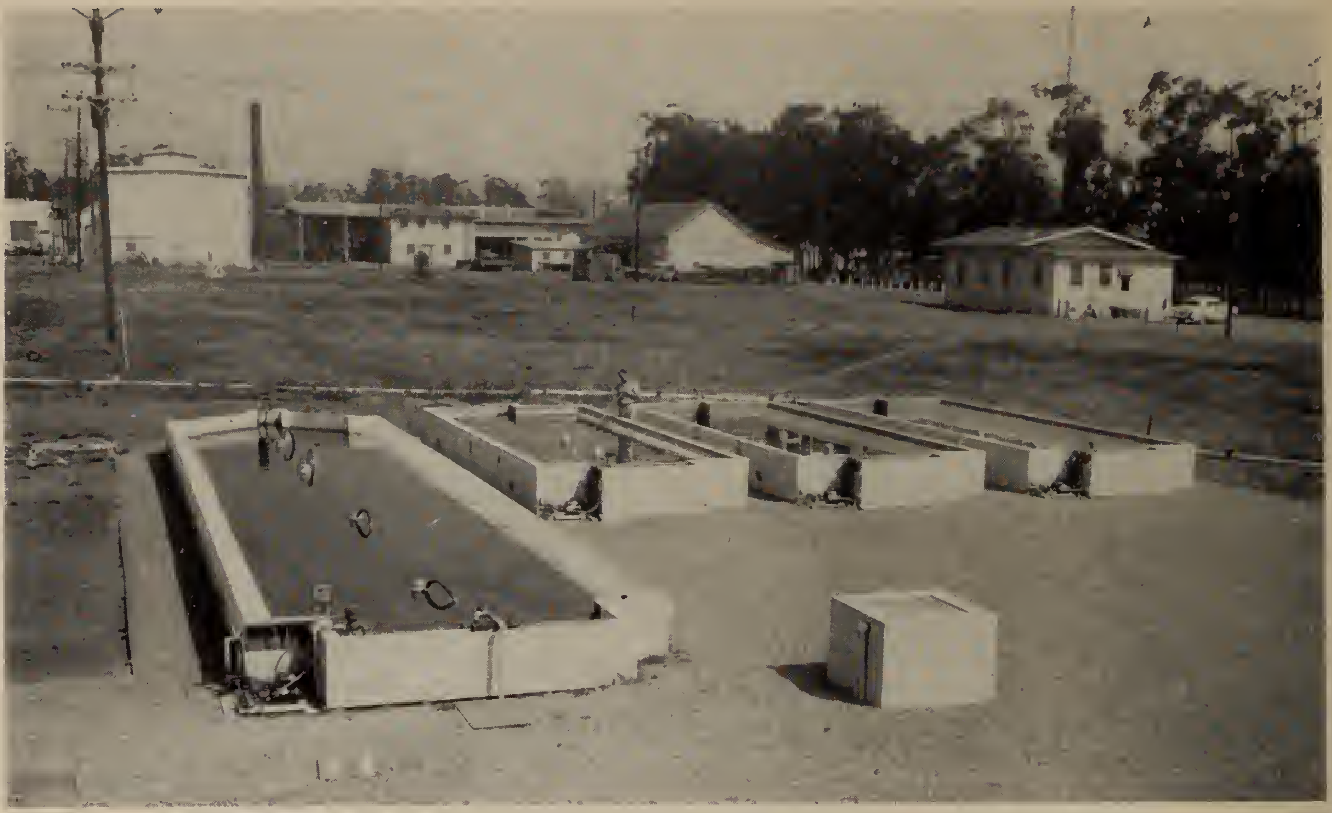
ANNOUNCER: The University of California welcomes you to its one thousand, four hundred and eighty-second broadcast featuring the University Explorer. In a transcribed story entitled "New Harvest," he tells of a potentially important new source of food. Here is Hale Sparks, the University Explorer.

EXPLORER: I recently went on a guided tour of a sewage treatment plant—not the way I'd normally spend a spring afternoon. But this was an exciting visit, during which I learned how the natural process of photosynthesis may be engineered to help alleviate some of the most pressing problems of the present and near future. These problems include the burgeoning of the world's population to the point where conventional farming may fall short of the need for food; and the growing demands agriculture and industry are making on the world's water supply.

As you may suspect, this was no ordinary waste treatment plant. It was a special research project at the University of California Engineering Field Station in Richmond. My guide was the director of the project—Dr. Harold B. Gotaas, professor of sanitary engineering on the Berkeley campus. Associated with him in the research are W. J. Oswald, engineer, and Dr. Clarence Golueke, biologist. Since 1951, they have been harnessing tiny, one-celled green plants—the algae known as Chlorella—as an economical shortcut in the purification of domestic and industrial waste. But the significance of their research extends far beyond its applications to sewage treatment.

Let me describe the process as I saw it on my trip to Richmond. First, Dr. Gotaas and I climbed a ladder and peered down into a large vat containing the raw material for the research—sewage tapped from the Richmond city system. This material is piped into one of several treatment ponds—shallow, rectangular outdoor tanks that look a bit like children's wading pools. The sewage spends two to three days in the treatment ponds, flowing slowly from the input pipe at one end to the outflow pipe at the other. The liquid in these treatment ponds is a uniform green in color, because it contains millions upon millions of algae.

Most sewage disposal methods depend on the action of bacteria to break down the organic impurities. To accomplish this—and indeed to live at all—these bacteria need a steady supply of oxygen.



Sewage treatment ponds at University of California Engineering Field Station, Richmond.
—Photo courtesy of the University of California

This is most commonly provided by aerating the sewage mechanically from the air. At the field station project, however, oxygen is supplied by the algae as one of the products of photosynthesis. The process of photosynthesis—on which green plants have a monopoly—is responsible for our having a breathable atmosphere and a continuing supply of food and fuel. Using and trapping the energy of sunlight, plants turn carbon dioxide, water and other substance into oxygen and a multiplicity of carbohydrates, proteins, and other complex chemicals necessary for life. Science has long sought ways of controlling photosynthesis and applying it to specific needs of modern civilization. The Richmond project illustrates one of the most promising possibilities.

The algae feed the bacteria a steady supply of oxygen, so that the sewage breakdown can take place. Meanwhile the bacteria supply the algae with THEIR needs for life and growth. The organic matter in the sewage is changed into chemicals that can be taken up by the algae—carbon dioxide, nitrogen, phosphorus and others. Thus the bacteria and the algae depend on each other for life and nourishment.

When the sewage is ready to leave the treatment pond, it is no longer sewage. It's a mixture of water, algae and bacteria. When Dr. Gotaas had finished explaining this part of the process to me, we went over to inspect the next stage. This took place in a closed tank, containing fluid drawn from the treatment ponds. Here, alum and sulfuric acid are added; they bring the algae together in clumps, heavy enough to sink to the bottom. This thick, green mass of algae is removed and spread out on filter paper over sand to concentrate it further. The fluid remaining in the tank is as clear as tap water. In fact, Dr. Gotaas told me, after draining through sand to filter out the bacteria, the water probably is safe to drink—although he didn't advise me to sample it.

I did, however, sample some of the algae after they had been put through a final drying and sterilizing process. The final product is a fine, bright-green powder which is sometimes compressed into pellets. It has a grass-like odor and, in fact, it tastes much like freshly-cut grass. While these dried algae have little appeal to most people's taste, they are nutritionally excellent, with a very high protein content—50 to 55 per cent. Dr. Charles Grau, associate professor of poultry husbandry on the Davis campus of the University of California, is using them in chicken-feeding experiments, and the preliminary results have been excellent.

When Dr. Gotaas and his colleagues began these algae experiments, they had no idea of the ramifications that have since developed. They were simply looking for a more convenient and economical method of waste water disposal. Soon, however, it was evident that the algae were capable of far more than supplying oxygen to the bacteria. They multiplied so fast that the idea of harvesting them became an exciting possibility; and the emphasis in the research has shifted to finding the best ways of cultivating and separating the microscopic plants. Continuing studies are being made of the amounts of sunlight required for maximum growth; the effects of various intervals between harvests; and the efficiency of various means of separating the algae.

Probably the biggest problem in making algae cultivation practical has been that of separating the tiny plants from their watery environment. Much research has gone into finding out which of several possible methods is most economical. One was to use a centrifuge, operating on the same principle as a cream separator. This worked, Dr. Gotaas explained, but it required so much power and equipment that its cost would have been prohibitive on a large scale. The same objection applied to mechanical filtering. Chemical separation has recently been perfected, and it seems to be highly practical. Adding a little alum and acid to the algae-and-water mixture results in rapid settling so that the algae can be easily harvested. It's now possible to produce edible algae at a cost of only about a nickel a pound, and waste disposal is accomplished at the same time.

Algae for Food

That figure—five cents a pound—is a significant one. It's been known for many years that algae might be used as human or animal food. But until the field station experiments began, algae cultivation had always been done in man-made, artificial chemical mixtures. With such methods, the cost was about 25 or 30 cents a pound. By using abundant waste material, the University of California researchers are harvesting algae for only a fraction of that cost. And, according to Dr. Gotaas, the algae probably have higher nutritional content than those grown in artificial media. This is because of the great variety of nutrients in the waste.

So far, the method has only been used in comparatively small-scale operations at the field station. This summer, though, the University researchers plan to set up much larger pilot tests in cooperation with the nearby city of Concord. The new method will be used in treating part of the city's sewage.

If this method of algae production comes into wide use, it can have a revolutionary impact on agriculture and conservation. It would reclaim a sizeable portion of the nutrients and chemicals we are now wasting. This waste runs into big money. For example, Dr. Gotaas says, "American domestic sewage contains $250 million worth of nitrogen a year. It also has about $600 million worth of phosphorus, and more millions in other elements and nutrients." Much of this material could be reclaimed in the form of algae.

Relieving Malnutrition

The possibility of algae as human food has been considered many times in the past; the World Health Organization has shown some interest in the California experiments, with an eye to relieving malnutrition in those parts of the world where the population is already outstripping its food supply. But in the United States, at least, Professor Gotaas believes algae have little future in the human diet. For one thing, no one has yet found a way of giving them a flavor acceptable to most people in this country. But as poultry and livestock feed, algae seem extremely promising. Not only can they be cheap, but they require very little land area. In the somewhat foggy climate of the field station, the year-round crop is equivalent to 40 tons of dried algae per acre. This is about 20 times the average yield for California farm crops. In sunnier climates, the algae crop could be even more spectacular.

If all of California's sewage were treated with algae, Dr. Gotaas told me, it would produce 300 tons of protein a day—a third of the protein requirements of all the state's cattle. Nationwide, we could produce 4000 tons of protein a day. Actually, the only limit on the algae crop would be the amount of available waste materials. Dr. Gotaas and his associates believe that individual farmers might be able to produce much of their own poultry and stock feed by using the same techniques to grow algae in barnyard wastes. Widespread use of algae for stock feed could free for human use much of the land that now supports our livestock.

Besides being a cheap sewage disposal method and an excellent source of animal feed, algae cultivation could help us make better use of our water resources—which are being strained almost everywhere by the increasing demands of agriculture and industry. When the algae have been harvested, the remaining liquid is clear water; and an inexpensive, final filtering process can remove most of the bacteria. Then it is entirely fit for irrigation; in some of the parched lands of the western states, this use alone might make algae cultivation profitable. There are other uses, too, for such reclaimed water—in industrial cooling systems, for example, and in the making of steel.

Reclamation of used water is not unprecedented, Dr. Gotaas told me. In areas where the so-called activated sludge method of sewage disposal is used, reclaimed water has been applied to a number of purposes. In one of the country's most famous municipal parks, all the water except that provided for drinking comes from this source. Reclaimed water keeps the grass green, the ornamental fountains bubbling, and the ponds and pools deep and clear.

Dr. Gotaas explains that the earth is supplied with only so much water, and no more. We use it, it's discarded, flows and seeps to the sea, is evaporated and purified by the sun, and returns to us in the form of rain. We can't supply our planet with more water, all we can do is make better use of what we have. By building dams and diverting rivers, we prevent water from going out to sea unused. By trapping and purifying water after we have used it, and by repeating the process as often as we can, we can make one gallon of water do the work of two, four, even seven or eight. Sometimes a factory near a river can simply drain off water, use it, and dump it back again. In other cases, and especially where a purer grade of water is needed, we must go through more elaborate procedures. Use of algae to purify water is one such method we'll probably use in the future.

The University of California's algae project has been underway for barely five years, and remarkable progress has been made in that time. Research is continuing, however. One of its phases is large-scale, practical evaluation of the new techniques; this is the object of the work which is to begin in Concord this summer. University researchers will continue their nutritional studies with animals — seeking ways of adapting and processing the algae to make them most useful on the farm. Still another phase of the research is taking place indoors at the field station—in artificial growth chambers. There, algae are being cultivated under fluorescent lamps instead of in sunlight. The conditions of growth can be controlled and varied very precisely; for example, the lighting can be adjusted so that the algae are exposed for days at a time or for periods of only a few seconds. Their nutrition can be controlled, to see what this does to their chemical makeup. By such experimentation, it may be possible to tailor algae to order for specific purposes, and to find means of improving on natural, sunlit photosynthesis.

The potentialities of this research are still unfolding. But this much is certain: important steps are being made toward harnessing and adapting the processes of nature to serve the needs of man.

—As broadcast from CBS Station KNX, Los Angeles and KCBS, San Francisco. Material from University of California Department of Engineering, Sanitary Engineering Research Laboratory.

ENERGY

". . . the amounts of heat energy we are accustomed to use in industry and in our houses, correspond to enormous mechanical energies (which we use without realizing their potentials in the form of power). In order to have a bath a man needs to heat say 100 liters of water through 30° C., which requires some 3,000,000 calories of heat energy. Those three million calories in the form of (mechanical) energy would lift him a vertical distance of 20 kilometers. Thus, if he had to warm his daily bath water by his own mechanical (muscular labor) efforts he would have to work as hard as he could for a whole week to get one bath—by the end of this time he would no doubt badly need it.

"Even to heat the air in a room just once through the normal temperature differences in winter, would correspond to the work he could do in about a day —and on the average the air in a room is changed about three times per hour.

"These illustrations show us how important it is (to understand) heat energy both in the home and in industry."

—from "Energy in the Future," Paper No. 6 in series "Energy in the Service of Man," by Prof. F. E. Simon, The Clarendon Laboratory, Oxford, England. UNESCO/NS/79, Paris, 5 February 1951.

The Art of Loafing

Loafing and idleness are not synonymous. It requires no skill to be idle, just opportunity, but it takes an accomplished artist to be a true loafer.

FEW NORTH AMERICANS have become skilled in that most soul-satisfying of all arts—the art of loafing. The reason most of them haven't is that they emulate the go-getter. The go-getter is the fellow who can pack his family into a car and 'do' six national parks in two weeks of vacation time. If he has six weeks available for travel, he can cover all of Europe and the north coast of Africa. While at home, his time is all accounted for; that is always something doing and, indeed, a great deal is being done; even his week-ends are arranged well in advance. His time is never squandered in doing nothing. He is the kind of man who gets ahead; he is the one our mentors point to with pride; and he is the one most of us attempt to imitate.

However, when it comes to go-getting, most of us are miserable failures. We have short-comings and we develop frustrations over our inability to become successful at it. Only a few have the talent, self-discipline, and vitality to develop go-getting to a fine art. Maybe the go-getters are not all great successes in life, but one thing is certain; everyone for miles around knows who they are and some of the things they are up to. If they happen to have enough money, they may acquire national reputations. The go-getter is one type of human personality and, undoubtedly, he serves some useful function in society as well as being responsible for a great deal of mischief and general annoyance. In a way he is an expediter of social progression. But he knows nothing about loafing. Rather, as a specimen of the opposite extreme, he serves as a 'horrible example' to the loafer. Insofar as this dissertation is concerned, that shall be his primary function.

In the days of human toil, one did not have much opportunity to develop the art of loafing; there was always too much that had to be done. Anyone who attempted to loaf was regarded as some sort of heretic, scoundrel, subversive, or low-lifer. But, in recent times, there is developing much more opportunity for loafing, thanks to technology, and it isn't looked upon with too much disdain, although still not without suspicion. For many, any real experience at loafing has been thrust upon them under involuntary circumstances, such as when they were convalescing from sickness or injury, were temporarily among the unemployed, or perhaps were held in confino. If a person can take such events in his stride and not fret about them, they may be the periods of his life that he remembers most and which he recalls with the greatest fondness.

If you have lots of money and enjoy the life of a big city, you may pass your time in style, becoming what is known as a cafe society playboy. But we cannot give that pattern much thought, here. In the first place, it is not really loafing; rather, it involves adapting oneself to a trite pattern, albeit one that is reserved only for those rare individuals with large unearned incomes. If you happen to have similar inclinations but have very little money, hence have to patronize low-class joints, you become known as a 'bowery bum' or some local equivalent of such. That is not really loafing either; at least not in any positive sense.

Without Schedule or Compulsion

The art of loafing is acquired and practiced by those who have a positive attitude toward it and who deliberately choose it as a way of life. It does not necessarily constitute idleness, although idleness may provide a valuable breeding ground in which to develop the art. Rather, it means that one does that which pleasantly appeals to him at the moment, without schedule and without compulsion. It is nice if one has full time to devote to this skill; but it can be acquired by almost anyone who has even a few minutes to apply to it daily.

One of the most serious handicaps that bedevil the loafer is the moralistic attitude of other people. When they see you enjoying yourself in utter disregard for the virtue of getting ahead, they view it with alarm and immediately try to find something for you to do. The go-getters are especially bad for loafers; they tend to promote you into doing something that you have no yen for. Even your spouse may not take to your loafing with kindness and understanding. Then, on occasion, the Law may charge you with being some kind of a vagrant. So, you see, laofing requires an attitude and skill in dealing with other human beings as well as in minding your own laziness. You have to be a devotee of the art in the first place, then you have to be stubborn in your pursuit of it, and finally you must be callous regarding other people's feelings concerning your art.

There can be no prescribed pattern for loafing; for, if it is to be true loafing, it must be conducted without set plan or obvious purpose. This much we can say: First, you must learn how to relax; then, you must keep fully caught up on your sleep. Otherwise you will find yourself dozing in a hammock, on the sofa, or somewhere; which is all right, too, as far as it goes, but there is more to loafing than just dozing away your time. However, if you happen to be short on sleep, dozing has a high priority and it should be attended to at the first opportunity.

Loafing and idleness are not synonymous. It requires no skill to be idle, just opportunity, but it takes an accomplished artist to be a true loafer. Mere idleness is a waste of one's time and talents, and you soon realize it and become disgusted with yourself. And when you are disgusted with yourself, you turn to self-pity and eventually develop a persecution complex, and that is next door to neuroticism. A skilled loafer is not neurotic, rather, he is a prime example of tranquility. He is serene in body and soul, and almost imperturbable within his environment.

'Program' of Loafing

The loafer is fully aware of his basic needs, such as food, shelter, comfort, sex, and companionship. He arranges for them in the simplest and easiest manner which is consistent with his means and manner of life and, as much as possible, incorporates them into his 'program' of loafing. He also recognizes that he must be actively engaged in some form of employment in our modern society; unless, of course, he is being kept or has an unearned income, which amounts to the same thing. Not many people can loaf for a living. So, interludes from loafing must be taken into account. Even so, habits and attitudes acquired from loafing often help one through his periods of scheduled employment. And, naturally, loafing affords one an opportunity to figure out ways and means of making a living with the least effort and emotional stress.

Many people who find themselves with more time on their hands than they can use in positive ways resort to puttering; that is, going through motions that are not really necessary or useful, but just to present an appearance of keeping busy. This sort of thing is abhorent to the loafer. When he does something, it's usually because he enjoys it, because it is an expression of his nature, or at least because it is an unavoidable necessity.

Nor is the loafer to be confused with the man of leisure; for, the latter is as much a slave of the social mores as the toiler, although in a different way. The man of leisure must prove to his fellowmen that he does not have to work. Either he has enough wealth to be independent of employment or he is being kept. He falls into one of the accepted patterns of the leisure class, usually engaging in sports, travel, socializing, honorary appearances, and publicity-seeking. The man of leisure actively pursues his leisure as if it were a career. He is under internal and external compulsion to impress upon others the fact that he is not a worker — a classification of humanity which he considers inferior to himself. He must also be wasteful, or at least lavish, in his expenditure of physical goods, just to prove that he does not have to be provident in his use of things. In contrast, the loafer follows his own inclinations, independent of any conventional pattern, and he is not interested in social distinction for himself. If the man of leisure happens to lack personal ambition in the social system, he may develop into a pretty good loafer, if he can overcome his background influences. On the other hand, the man of leisure may be an activist, but it is necessary that this be in some non-productive endeavor.

One important feature of loafing is that it affords one an opportunity to observe what is going on around him and to give it full contemplation. Observation and thinking are certain to produce ideas. The skilled loafer soon has more ideas than he knows what to do with, certainly more than he ever attempts to translate into action. Not being a go-getter, he does not attempt to capitalize on his ideas any more than he can help. He usually is not above talking about them to sincerely interested parties, however. Many times the ideas developed by loafers fall into the hands of go-getters and the shape of things get changed. Always being on the lookout for ways of getting things done with less effort, the loafer has a tendency to become an inventor, specializing in labor-saving devices. Once he gets a basic idea, he may mull it over in his mind until he works the bugs out of it, although this may take years of intermittent application, depending on his mood and the prevalence of stimuli that bring it to his attention. The loafer is not in a hurry and successful accomplishment is not a drive in his life. Consequently, most of his ideas probably pass into oblivion when he dies.

Nevertheless, the loafer is a constant threat to those whose investments are enhanced by waste, inefficiency, and duplication, for those things annoy him to the point where he is impelled to seek simpler and more efficient solutions to the problems involved.

A Valuable Man to Executive Staff

It is being recognized in recent years among the councilors of large corporations that the go-getter is not usually the best type of person for an executive position; rather, the best type is more often the loafer. The loafer does not clutter up his time with redundant activity. He is in a better position to observe what is going on and note details. He has more time to think about problems and he is always on the lookout for simple and easy solutions. He is a valuable man to have on the executive staff.

From the standpoint of the economy of an area, the loafer is relatively inexpensive. As contrasted with the go-getter, he does not tear about, burning up gasoline and wearing out metal. He does not promote the dissipation of resources for the sake of booming sales and profits. He does not squander materials and energy in ostentatious display.

The loafer is inclined to dress casually, because he is casual about most things he does. But his casual wear is of his own choosing, perhaps his own designing, not necessarily that which is promoted and sold as 'casual wear' and bought and worn for the sole purpose of appearing 'casual.' He is not likely to acquire a new house, new furniture, or a new car until he is satisfied that what he has no longer serves his purpose. He changes for the sake of personal progress and comfort rather than for the sake of mere change or keeping up with the neighbors. He is seldom bothered by the style changes that business introduces and promotes for greater sales.

Don't get the idea, however, that the loafer is a reactionary or conservative when it comes to social progress. Usually in his ideas he is far ahead of the general public; but he is in no hurry to take the initiative for putting those ideas into action, even when he recognizes them as superior to the practices that prevail. He is not a man of action. He tends to develop gadgets and techniques for doing things that are different, but only as the inclination strikes him. When confronted with a problem, he may be fanatical in his devotion to it until he finds the answer; but, once he has found the answer, he may not force it to a conclusion. He does not feel that he is under compulsion to arrive at success; besides, there are many other ideas to think about and other things to do. Nevertheless, the loafer often does come up with something new and odd; which, if it becomes known, may be copied and promoted by some more ambitious person. Thus the loafer becomes responsible for more than he intends, though he seldom gets the credit for it.

There are certain elements of risk about being a loafer, not only for the loafer personally but for the society at large. These risks spring from the tendency of the loafer to become subjective in his ideas and accomplishments. He does that which appeals to him personally with disregard for what other people may think of it. But, so often, non-loafers will view his subjective creations—his art, his poetry, his gadgetry—and think it is 'divine' or at least quaint. Something he does may catch the public fancy (perhaps after considerable promotion by someone) and, then, society has to endure this person's subjectivity. If the one example were all there was to it, probably it would be no great menace; but, on the basis of one 'success,' the situation often becomes compounded. The poor loafer is harassed into producing more and more 'works of genius' until, perhaps, he becomes a popular idol. He may even be induced to become a go-getter, after which he is no good as a loafer. That is one of the worst risks he takes by becoming the creator of subjective art. We do not know whether Salvador Dali was ever a loafer; but, if he was once, you can see what we mean by risk, both from the standpoint of the individual loafer and of society at large.

Effect on Children

Fortunately, most loafers never become popular idols or anything approaching them. More often, they are regarded as crackpots or psychos, and you try to keep the children away from them. Since they usually have plenty of ideas about plenty of subjects, and these ideas have more often been thought out by free and independent contemplation than read from textbooks, it follows that it's not safe to let children become exposed to them. There is a risk that some of them (the children) may want to become loafers, too, while they should be striving to become go-getters.

Almost anybody can become a loafer with little or no more effort than it takes to learn hindustani, but few people are willing to devote the application to it that is needed to polish it off as a real work of art. (Since the word 'work' is anathema to the loafer, it should not be regarded too literally in this context.) If you happen to be ambitious, and you are not able to shake it off, you are a poor prospect for becoming a loafer. You may as well give it up or, at least, postpone it. If you have to be recognized as an important personage by your fellowmen, the odds are heavily weighted against your ever becoming an accomplished loafer. If you are closely associated with persons who are activists, you are also in a bad way; they will not be able to appreciate your loafing nor let you carry it on in peace. You have to be imperturbable in the face of friend and foe alike. If you are persistent, however, the chances are that people will accept you for what you are and reluctantly let you practice your art of loafing without too much overt disdain.

If active people around you become too annoyed over your loafing, you can generally quiet them down by pretending to have a 'cardiac condition.' (Actually, everyone has a cardiac condition, even if it is a condition of perfect function.) Or you can hint in a low voice that you have a 'glandular condition' (which will be misunderstood in the same way). The worst consequences of these 'pretenses' will be the effluvia of 'remedies' and advice that will be offered by busybodies, as well as gratis descriptions of other people who are worse off than you are. You will have to decide which of the two pestiferous conditions are the lesser evil.

Learn How to Relax

The first step in becoming a loafer is to learn how to relax your muscles completely, so that you can drop off to sleep anytime in a matter of a few minutes. (When you can be calm and relaxed in a dentist's chair, this accomplishment will be complete enough for your purpose.) Next, or concurrently, learn to get plenty of sleep, enough so that you feel 'alive' in between times. Avoid fatigue as much as possible. Other bad habits to be on guard against are reverie, brooding, and fanciful imagination. They are a waste of time and 'nervous energy.' An idler might be willing to waste his life in useless and senseless byways, but not a loafer. The skilled loafer is positive and creative in a non-vigorous way. He observes as much as he conveniently can, without paying too much attention to whether it is important or unimportant. The main thing is, it must be interesting to him. And, being alive and alert in a casual way, he thinks about the things he sees and associates them with the knowledge he has already gained. And while he is still interested, he may look up reference material on the subject at hand or discuss it with other people. Thus, he builds up a storehouse of general information.

The loafer does not operate according to any set regimen. He has no precise hour for retiring or arising. Unless circumstantially involved otherwise, he eats when he feels like it and he eats what appeals to him at the moment from among the things that are available, with priority given to those things that require a minimum of preparation. He is not a diet hound, being content to accept that which satisfies, avoiding only those things that disagree with him physiologically. He tries to get by with a minimum of habits and fixations, having a wide range of selectivity in which to operate. He is more apt to be a 'jack-of-all-trades' rather than a master of one, only he doesn't work at it as if it were an occupation. He is not fussy about dressing, placing more emphasis on immediate comfort than on style.

The loafer is not above assuming a few obligations which require time and attention on his part, such as undertaking some construction project, doing an object of art, planting a garden ,or caring for a pet animal; but, if so, he does it because it appeals to him and not because he feels that it is a duty. Consequently, he does not commit himself any more than is necessary; and, if he becomes bored with a project he has started, he does not hesitate to abandon it or, at least, take a rest from it. The skilled loafer soon learns to anticipate his capacity for undertaking extended projects and avoids overcommitment.

It may be that the loafer will have to become reconciled to certain interludes in his program of loafing, especially if he is burdened with steady employment, is involved in family life, is conscripted into some kind of activity, or is under compulsion to finish up something he has started to do, something that must be done. His only recourse, then, is to arrange to get in as much loafing as he can between these interludes, the more the better, but a little in preference to none.

One fault of modern society is its failure to capitalize on the ideas which are being generated by loafers while loafing. Contributing factors to this fault are (one) the reluctance of the loafers, themselves, to push their ideas and (two) their suspicions regarding other people who are pushers. Perhaps the loafer has not yet worked up his idea to the point where he is ready to offer it to society; perhaps he is afraid of being rushed into finishing it; or perhaps he is zealous of keeping it under his own control. Since other people usually do not appreciate his loafing in general, there is a lack of friendly liaison between him and society at large. So, too often, well worthwhile ideas perish by default. Well, after all, that is not inconsistent with a society which deliberately expends as much or more effort in suppressing new ideas as it does in developing them.

Free from Toil

As machines and extraneous energy take over more and more of the labor of man, people are being released from toil and being presented with the opportunity and responsibility of developing a pattern of life for themselves that is free from toil. This is a welcome prospect for the loafer; for, if nothing else, it will make loafing socially acceptable and, possibly, respectable.

He welcomes the company of other loafers as a rule, although there are such beings as hermit loafers who would rather loaf in solitude. While he may be annoyed by go-getters and busybodies, he relishes the companionship of other loafers. They don't expect anything from him. They permit him to come and go without formalities as it suits his interest and convenience. A highly enjoyable experience for him is sitting in on a bull session with other loafers, where there is an informal exchange of ideas with a minimum of evaluation.

The primary reason that so many loafers are forced into a relatively solitary pursuit of their art is the critical evaluation of their mode of life, their interests, and their ideas which more active people impose upon them. In sympathetic and uncritical company, they are glad to become sociable and expansive. However, do not look for a 'typical' loafer or a 'typical' pattern of loafing; for, the loafer is an independent and unpredictable creature. He may devote considerable time to reading books, or observing nature, noting the antics of other human beings, or tinkering in machine shops—but not on a scheduled program. There is a probability that he is untidy, in personal appearance and in his habitation, for cleaning up after oneself is not a particularly interesting activity, and he does not indulge in it any more than necessary. That is another reason why there is little rapport between loafers and doers, also why loafers find it less difficult to be left alone.

In a society of abundance and freedom from toil, the loafer will not be a social problem; for, he will know what to do with his time. The go-getter probably can keep himself occupied, also, but not with comparable environmental equanimity. The great majority in between these two opposites may have some problem of adjustment, both with society and with their moral consciences. They will not have the drive of the go-getter nor the composure and patience of the loafer. But human beings have a wide range of adaptability; so, no doubt, their dilemma will be temporary. It is probable that many of them will become accomplished loafers within a reasonable time; but the majority,more likely, will become patrons of organized amusements and hobbies, either as active participants or as hangers-on and spectators.

As society tends to look with less disdain upon loafing, it will be possible to prepare a more effective liaison between loafers and doers. This merely calls for a relatively sympathetic acceptance of and tacit appreciation for the pattern of life exhibited by the loafer and restraint from interfering with it. The loafer probably would welcome the opportunity to pass along ideas to those who would take them up and develop them further for human use —provided, of course, nobody tried to expedite him. There is no human a loafer hates worse and resents more than an expediter. So, if society is to benefit from the chance 'creations' of its loafers, it must do so without the service of people whose business is telling other people to hurry up.

Loafer as a Part of Humanity

We are not attempting, here, either to recommend or discourage the loafer as a member of our society; rather, we are proposing that he be recognized as an existing and interesting classification of humanity. For the most part, his 'activities' are harmless and, what is more important to a resource-hungry society, are conducted with a minimum of social cost. Also, he is inclined to be an innovator at times; and occasionally some of his ideas are socially useful. His subjective art and philosophical meditations can be passed over lightly in the main, for they are of special interest only to the individual. In any event, he (or she, for loafing is not unisexual) must be taken into account.

Technocracy wishes the loafer a Happy Landing in the New America.

—Wilton Ivie, CHQ

Have You Observed?

. . . **Four years** have gone by since the last major political rat race, and again the American public is being subjected to the rigged primaries, conventions and nominations which are set up by the party bosses. As usual, the candidates of the two party system have stated that they intend to keep things as they are, which isn't worthy of anyone's concurrence or support. The two parties have become so much the same in their objectives that their only significant difference is in their name labels.

. . . **A sick, tired** and indecisive old man, who can't tolerate the idea of getting out of the spotlight of public attention, again is going to use his wartime popularity in an attempt to foist Republicanism upon the American people. An ironic twist that he is mouthing to gain the female vote is that he kept the country out of war. How many people will remember that his Secretary of State, John Foster Dulles, did his utmost to embroil this country in every situation that showed promise of war during the past four years?

Momentarily in the background is 'Hope-He-Dies' Nixon, who pulled every string in the book to force his nomination to the vice-presidency. There is a chance that Eisenhower would never finish another four years in office; and if he does, he probably would, by reason of debilitation, turn over most of his responsibility to Nixon. Knowland, who at every opportunity has called for war against Russia, is a top candidate for Secretary of State on Nixon's list. Not only that, but public consciousness has fallen to such depths that this crew may be in office after November.

Supposedly on the other side of the fence, there is Stevenson and Kefauver. Stevenson, who has demonstrated little other than political wit, appears not to have much qualifications for the office of President, when measured against the responsiblity of leadership in present dangerous world circumstances. No politician plans seriously for what may happen while he is in office, and it looks like plenty will be happening both at home and abroad during the next four years, regardless of who is in office. It isn't going to be beneficial to the status quo, either.

And then, of course, there is Kefauver, the crimebuster, and his coon skin hat, who never dared to lay a hand on the big operators of crime in this country, but who did an exceptional job of building himself up investigating petty racketeers, the scavengers of the underworld. He would like to be president because he doesn't know any better. But for Stevenson, he is probably more of a political asset than Roman Catholic Kennedy would have been. Stevenson might well have faced the prospect of assasination while in office, if elected, had Kennedy been vice president. It's getting late in the day for Roman Catholicism on this Continent. This clerical ideology is getting desperate. Let us not forget that it was a Roman Catholic who assasinated Lincoln because Lincoln did not accede to the Catholic conquest of Mexico under Maximillian.

Technocracy states that there are more differences within the two major parties than there are between them. Some people ought to be getting sick of this political mess year after year. And there is something they can do about it. Join Technocracy and help eliminate it forever.

—Harry Briggs, 12247-1

WANT SURPLUS IN GAS TANKS

WASHINGTON—Two farm state congressmen proposed that motorists be required to burn up surplus grain in their gas tanks.

Sen. Mundt (R-SD) and Rep. Jensen (R-Iowa) said in introducing their bill, it would eliminate the government's 1.7 billion bushel surplus of corn and wheat within 14 months and add no more than 3 cents a gallon to the cost of gasoline.

The Jensen-Mundt bill would prohibit sale of gasoline or motor fuel unless it contained at least 5 per cent by volume of alcohol manufactured from grain.

To enforce compliance, it would levy an additional tax of 5 cents a gallon on production or importation of present types of fuel.

—New York Herald Tribune

—A typical political 'solution' to a physical problem.

FACING OUR PROBLEMS

The technical man knows that when a physical mechanism fails to function, or functions improperly or inadequately, that the fault lies in the design of the mechanism, not in some vague, intangible influence based on the philosophical principle of right and wrong. This is as true of the social mechanism as it is of a piece of machinery.

WHEN CONFRONTED by a problem, there are four possible ways in which we may react to it—flee it, forget it, fight it, or face it.

The timid soul will attempt to retreat from the problem and find shelter in some safe refuge. He hates conflict and uncertainty and lacks the courage to meet his problems face-to-face. He stays with the crowd and does what the crowd does; except, when the crowd insists on action, he hangs in the background.

The mentally indolent choose to ignore problems as much as possible. Their attitude is, if you don't pay attention to them, they will go away. So they drift on their way, doing nothing about the problems that arise, staying in the same groove that their parents and grandparents followed. However, today, they are somewhat confused and unsettled; for, the very substratum in which their groove has been worn is being bulldozed out of the way by modern technology. Even so, they still do not recognize the existence of a problem, passively accepting whatever employment or dole comes their way, continuing to plod along the best they can.

The reactionary fights new problems, striving desperately to keep things as they have been. Also, those who do not understand the nature of the problem or its implications tend to get panicky in their confusion and fight against it. Thus, many social and personal problems arise which are met with opposition and subterfuge. One of the major problems on the North American Continent that is being thus opposed is the problem of distributing abundance. The reactionaries are using every tactic they know to prevent the distribution of abundance and to preserve the values of scarcity.

The valiant men of courage choose to meet their problems face on and to resolve them on the basis of realism and scientific appraisal. First, they make a survey of the situation and determine what the problem really is; then, they investigate the facts connected with it; next, they design a course of action; and, finally, they carry the solution through to completion. These are the people who advance themselves and their society in fundamental and material ways and keep affairs in a semblance of equilibrium.

One of the prevailing problems of all ages has been that of determining the whence and destiny of mankind. Through ages of groping in mental darkness, man has sought knowledge of how he got here, why he is here, and where he is going. Few men have been able to face this problem with courage and realism; and only recently, since the development of the scientific method, has it been possible to make headway on it. Almost all 'knowledge' on the subject has been derived from speculation. Along the way of time, men have advanced many diverse and weird explanations of man's origin, his purpose for being here, and his future destiny. These explanations have been welcomed by the timid, who quickly fly under their shelter and consider the problem solved. They have been accepted without question by the mentally alert, who passively go along with them after the way is prepared for them. The reactionaries have built economic, political, and moral orders around the explanations which were derived from speculation and were subsequently established as creeds. Their values have become entrenched in a status quo. So, now, they fight bitterly against any change or modification of the old explanations. The modern scientist and his intellectual followers are pioneering the way for newer and more realistic explanations. These are being opposed on all sides by the timid and the reactionaries and ignored by the lethargic. Many vicious fights have been and are being waged, accompanied by heated arguments and bitter invectives, and resulting in many estrangements and enmities.

Numerous conflicting and queer conclusions have been reached regarding the why and purpose of man's present being, based on intangible and noncorroborative speculations. Yet there is no objective evidence to support any belief that man is here for any purpose whatsoever. All evidence supports the view that man is here, today, and is presently dominant merely because he has been able to win out in the struggle for survival in open competition with other animals.

The question of where we are going, likewise, has produced many conflicting speculations, which in turn have led to stubborn convictions, and these have led to open discord. Competing organizations, basing their tenets on conflicting views regarding man's destiny, have conducted themselves in the most cruel and inhuman manner, of which mass slaughter of whole populations is among the recorded examples. The Inquisition against heresy was one of man's cruelest campaigns against opposing views.

Speculation Solves No Problems

No problem is solved and no sure answer is arrived at through speculation; yet, that is the approach which has been most widely used through the centuries. On the other hand, all problems are susceptible of being reached by, and capable of yielding to, the scientific attitude and method. This is the only manner in which a solution can be reached, whether it be a problem dealing with the infinitesimal minutiae of the microcosm or the immense magnitudes of the macrocosm. Measurements and mathematical calculations are the tools with which the scientist works. He deals with such things as dimensions, densities, energy transformations, and time, along with all the changes, variabilities, and details within these fundamentals.

Thus, as time goes on, man learns that as the temperature of a substance is increased, there is a relative decrease in its cohesiveness; that, as heat is applied to the substance, the solid changes to a liquid, then the liquid turns to a gas, and eventually the gas becomes incandescent. These phenomena are constant for fixed substances under identical conditions. This sort of knowledge enables man to understand the workings of the universe and to predict events for the future. This sort of knowledge brings men together in peace and harmony, contracted with the 'knowledge' gained from pure reason and guesswork, which separates men into conflicting and discordant factions.

The trained scientist, becoming acquainted with the principles of nature, is soon able to analyze a problem and tell whether it can be solved by any method known to man; and, if it can, outline the ways in which it must be approached. If the problem is not capable of immediate solution, the scientist most likely can indicate what new knowledge is necessary in order to attack it. For centuries, man has visioned the act of sending a conveyance to the moon and back. There has been much speculation and fictional descriptions of how this could be accomplished. But the scientist has come up with facts which exclude most of the speculative and fictional methods. The scientist is satisfied by now, however, that a projectile can be sent to the moon and he knows many of the incidental problems that must be met and resolved. As trials and calculations proceed, the problems can be further refined and adjusted until success is the result. In contrast, the philosophical speculators come forth with all kinds of explanations about why it can't be done.

The technical man knows that when a physical mechanism fails to function, or functions improperly or inadequately, that the fault lies in the design of the mechanism, not in some vague, intangible influence based on the philosophical principle of right and wrong. This is as true of the social mechanism as it is of a piece of machinery.

Only a casual observations of the operating characteristics of the society of North America discloses that it is a faulty mechanism. Otherwise, we would not be plagued with problems of food surpluses, unemployment, poverty, and interfactional strife. We cannot lay the blame for this faulty operation on the human beings, for their behavior is only an interaction between their natures and their environment. Rather, the blame lies within the design of the social mechanism. The ancient Price System is a poor design for the operating circumstances existing on this Continent.

Since the social mechanism of North America is the whole of its physical parts, the solution of the problem is to be found in a redesign of the mechanism itself. It is the height of futility to keep trying to patch up the parts, when it is the whole, overall design that is faulty. Most problems of the individual are derived from the malfunction of the social organism as a whole. Technocracy has stated it this way:

> Technocracy does not seek a solution to . . . your private problems. (But) if you want the answer to the problem of 200 million people, we can help you out. We know that when the problems of 200 million people are taken into consideration, the variables become a uniformity and can be handled as a unit problem. And in that solution will be contained the solution of the problems of all individuals.

Thus, the personal problems of the great majority of North Americans will be resolved when the basic problem of the social system as a whole is correctly handled. The 'little people,' whose pattern of life is built around a job, the pay envelope, and the retail merchant, are constantly harassed and threatened with problems that are rooted in the Price System. Purchasing power is the crux of their problems. These problems will disappear when the Price System is supplanted with a functional control of abundance.

Technocracy, alone, is facing the problem of the North American Continent. It has the design for distributing abundance to all the people of the Continent without price and without toil. Technocrats are not fearful of social change, but they recognize its inevitability and are preparing the way for it. They have no stake in the time-honored order of the ancients—in the scarcity values of the Price System. They are neither apathetic to the conditions on this Continent nor confident that all will turn out for the best if you just let it take its course.

The steps in Technocracy's approach to the problem on this Continent follow this sequence: (1) Recognition that there is a social problem in North America; (2) Analysis of the social order to determine what its operating characteristics are and which of them are faulty; (3) Synthesis of a new social order to function in accordance with the facts and potentialities of the area; and (4) Organizing the citizens of North America to prepare the way for the New America.

We trust that you are a citizen of courage and realistic foresight and that you will welcome the opportunity to join with other citizens of like caliber in facing the problem. All right, then, let's face it with determination and tenacity and keep after it until we all have a Happy Landing in the New America.

—F. C. Glenn

HAPPINESS HAS A PHYSICAL BASIS

It is obvious that the intent of all . . . citizens is to improve their material and moral conditions of life. We must, therefore, make quite clear what we mean by the material and moral happiness of a nation.

You will agree that the country in which the people are best fed, best housed, and best clothed, in which they can travel most easily, and procure the necessities and amenities of life wherever they go, is the country where they are happiest from the material point of view.

You will also agree that if, in this same country, the intellect of men is developed, and if they are able to appreciate the fine arts and are familiar with the laws which govern natural phenomena and methods of modifying them, and if they are well-disposed one toward another, they will enjoy the greatest possible measure of happiness from the moral point of view.

—Henri De Saint-Simon, 1822
as quoted in 'Impact of Science on Society,'
Vol. II, No. 3-4, 1951

MY TWO CENTS WORTH

Well, election time is rolling around again and I am trying to decide what to do about it. I didn't vote last time because I didn't want to make either candidate unhappy by voting against him. This time it is a little different, even if the candidates are the same. Mr. Eisenhower is so sickly it is a shame to make him hold office for another four years, even if someone else does do his work for him. I think the slogan should be, 'If you like Ike, vote for Adlai.' Then, of course, there is Mr. Nixon who nobody seems to like, only the rich reactionaries. Senator McCarthy says Mr. Nixon is all right and that settles it for me.

I don't know very much about Mr. Stevenson except he seems to be more educated than Mr. Eisenhower and he tries to be funny. But Uncle Zeke says he is a pussy-footer. He leaves tracks all over the place, but you never know where he stands. Mr. Kefauver is a nice enough fellow, but he is so ordinary. You kind of want somebody who is important and who you can respect for president, not somebody like the next door neighbor.

I want to be as patriotic as the next person, but for the life of me I can't see where any of the candidates will make a good president and Uncle Zeke agrees with me. This is supposed to be a free country, and if you don't feel right about voting for either side, then I guess you have the right to abstain from voting as they call it.

Anyway, we get a day off from work with pay on election day, and that is the best thing about it so far as I am concerned. I wouldn't mind them having an election every Tuesday if they would keep that up. There is nothing I like better than having a day off to loaf, with pay, unless it is two days.

—Ima Moron

DEVELOPING TRENDS

G. M. TO USE AUTOMATION IN ASSEMBLY

CHICAGO—In a few years some manufacturer may brag that his new automobile engine is built, "untouched by human hands."

The General Motors Corp. is adapting automation to assembly of automobile parts.

The process-development section in the General Motors Technical Center is building a machine 137 feet long that will assemble the 75 parts that make up a cylinder head. With only four operators and two handlers this machine will assemble 29,000 parts an hour.

If trouble develops it will show up on a control panel that has 242 red, green, yellow and white lights and 27 control buttons.

All the especially built machinery that makes up this assembly line is synchronized with one conveyor. This moves the cylinder heads, mounted on pallets, from post to post in a carefully timed cycle.

All heads shift at once and then each post goes into a series of operations. It can produce 400 heads an hour.

When jobs can be broken down into their most simple components machines can do them faster and more precisely than humans. Machines do not have memory lapses, nor do they suffer from distractions.

—Seattle Times

—It might also be noted that machines do not require wages and therefore cannot buy automobiles.

BUSINESS FAILURES

Business failures for the United States numbered 1,105 in June, down 59 from May but up considerably from the 914 failures reported a year ago. According to figures compiled by Dun and Bradstreet, business failures totaled 6,496 in the first six months of this year and were 15 per cent greater than for the corresponding 1955 period.

—Bank Bulletin

THE WORLD OF SCIENCE

University of California agriculture scientists are doing research on a project which may produce a synthetic new "mushroom type" food. The studies are aimed at producing edible fungi in fermentation tanks, similar to the process used in large-scale penicillin production. Donald M. Reynolds, assistant professor of bacteriology, and Paul V. Benko, graduate student in food technology, are working on the experiment. Prof. Reynolds said the food would be grown in large tanks in a "submerged culture" process and would "greatly reduce" labor costs now required to raise mushrooms. The fungi could find wide uses in mushroom soups, gravies and sauces, where whole mushrooms are not needed, and they could be used for flavoring, he said.

—New York Herald Tribune

CREDIT VITAL TO ECONOMY

SAN FRANCISCO—Continued expansion of the American economy will require a great increase both in domestic consumption and in the use of consumer credit,, Arthur O. Dietz, president, C. I. T. Financial Corp., said.

Contrasting the place of consumer credit in the U. S. with its role in Great Britain and Soviet Russia, Dietz said installment buying has made the American economy a truly democratic one and has "enabled us to live in comfort, cleanliness, ease and safety beyond the dreams of even the aristocracy of past generations."

"Russia has a long record of failure to meet the material needs of its people," Dietz explained. "If the worker, the producer, is not given a fair opportunity to share in the fruits of production, and to aspire to an ever-larger and more satisfying portion of life's good things, a vigorous economy cannot exist."

—New York Journal American

—If the mushrooming growth of debt is an indication of vigor in the economy, then ours must be vigorous.

WELDING PROCESS

Development of the atomic submarine, which has revolutionized undersea warfare, has brought in its wake development of a revolutionary new welding technique.

Faced with the problem of welding together the huge twenty to sixty ton hull sections of the U. S. S. Nautilus, first nuclear-powered seagoing craft, General Dynamics Corp.'s Electric Boat division hit upon using a set of giant powerdriver rollers.

The hull sections were placed on the rollers and rotated while a stationary welding machine fused them into one. General Dynamics engineers, according to the company, found that the joining took three "passes" of the machine over a time span of about 100 hours.

More conventional methods, General Dynamics says, took close to 300 hours of back-breaking hand welding operations. Each successive "pass" is made at a faster rate—the first at nine inches a minute, the second at sixteen and the third at fourteen inches a minute.

Welding temperatures, according to the company, have to be kept constant to prevent distortion and cracking. This is done by heating the circular steel sections to 150 degrees Fahrenheit through four induction coils placed on each side of the weld.

The process, General Dynamics says, was used on the second atomic submarine, the Seawolf, and is being used on a third such craft, the Skate.

The process is reported to be adaptable to the fabrication of vehicular tunnels, boilers and other pressure vessels.

—New York Herald Tribune

CHEMICAL SPRAY, AUTOMATION, MAY 'CLIP' SHEEP SHEARERS

BRISBANE, Australia—A Queensland sheep rancher has started "chemical warfare" to beat a strike of sheep shearers now in its sixth month.

B. O. Elsley, owner of the Belmore Ranch near Yelarbon, and his manager, E. G. Hall, a former chemist, have patented a process under which wool is removed from sheep by a chemical spray.

The two men say the spray breaks the wool fibre at skin level and does not damage either the animal or the wool. A few days after spraying, the wool can be stripped mechanically by "rubber fingers" fitted to a runway.

One rancher, using the spray, has canceled his order for shearers to clip 7,000 sheep.

The shearers' strike has been spreading throughout Eastern Australia since an arbitration court reduced the men's wages. An estimated several million sheep are unshorn.

—Seattle Times

PROFITS DOWN FROM LAST YEAR

First-quarter sales of the auto and equipment industry fell 6 per cent below a year ago while profits declined 21 per cent. General Motors Corporation reported that its second-quarter sales plummeted nearly 18 per cent, and profits were off 38 per cent. The auto industry currently shares its recession with the instrument manufacturers. The two combined account for some 9 per cent of manufacturers' sales. Sales were increasing but profits were declining for the lumber, electrical machinery, transportation equipment, and leather industries which account for 14 per cent of manufacturers' sales. The profit squeeze is attributed to higher costs for labor, raw materials, and expansion.

—Bank Bulletin

CUT-BACK IN FARM MACHINERY PRODUCTION

International Harvester Company plans to halt tractor production for at least five weeks commencing October 1. Company officials announced that the curtailment in production was designed to bring the inventory level of finished tractors in line with demand. Through May of this year wheel-type tractor production totaled 127,253 units and was 20 per cent below the corresponding period last year. The reduced demand is attributed by trade sources to adverse weather conditions and reduced farm income.

—Bank Bulletin

AGRICULTURE IN THE NEWS

Under the Soil Bank program nearly half a million farmers have agreed to reduce plantings by some 10.7 million acres this year. The government will pay a total of $224.4 million by early fall in order to effect crop reductions, and farmers will receive an additional $250 million to undertake suggested soil conservation practices. During 1956 the major portion of funds—$151 million—will be paid to farmers, primarily in the midwestern states, who will retire 4.5 million acres of corn.

U. S. exports of farm products amounted to $3.5 billion in fiscal 1956 according to the Department of Agriculture. This reflects an increase of 10 per cent or $330 million compared to the previous fiscal period. The Department indicated that the rise in exports was due to increased foreign industrial capacity and liberalized import policies on U. S. products.

—Bank Bulletin

AUTOMATION TRANSITION URGED

MOUNT VERNON, New York—American Federation of Labor - Congress of Industrial Organization President George Meany says the nation is failing to prepare for a new industrial revolution sparked by automation.

"Instead of people operating machines," he said, "there will be machines to run machines, thus displacing millions of workers."

The labor leader said this "big problem is fast overtaking us while the nation fails to prepare for it."

Meany said labor "will not stand in the way of industrial progress. But adequate provision will have to be made for displaced workers during the transition period and we intend to see to it that the public and workers get their just share of the rewards that derive from new and improved production methods."

—Seattle Post-Intelligencer

—Labor can lead the parade by demanding abundance for all as a social heritage and denouncing work as a means of making a living. But we doubt that Mr. Meany's background will permit him to take such a course.

U. S. ABUNDANCE HELD CHALLENGE TO CHURCHES

A challenge which has come out of the nation's "economy of abundance" was stressed at the Seattle-King County Council of Churches monthly meeting at First Methodist Church.

It was contained in a report by Paul J. Raver, superintendent of City Light, on the recent Pittsburgh conference on "The Church and Economic Life" which he attended as a delegate of the Disciples of Christ Church.

"The challenge is in the handling and distribution of this abundance," he declared. "Out of the discussions came several disturbing thoughts.

"How can we say there is an economy of abundance when, for instance, we still have teachers who are underpaid and there is inadequate school building? There still is inadequate medical care in some areas of the country, especially for the aged. There are minority groups who are not sharing in the opportunities for betterment. There are great areas of intelligent, trained people among these minorities whose services are not being utilized."

Raver, a member of University Christian Church and active in the Council of Churches, declared that Christianity must make its voice heard in the proper distribution "of this abundance."

—Seattle Post-Intelligencer

—The direction of the industrial mechanism cannot be engineered by political or ecclesiastical leadership.

NICKEL IN SHORT SUPPLY

The U. S. Government will pay premium prices for nickel in an attempt to raise the available supply from 300 million pounds annually to 440 million pounds per year by 1961. This policy may be a strong factor in the plans of International Nickel Company which is contemplating a $150 million nickel ore development in northern Manitoba. Exploration and study of the Moak Lake area has been under way since 1945, and a final decision will be made by INCO executives in September.

—Bank Bulletin

The Race We Can't Afford to Lose

No individual who possesses native intellect, and who is not psychopathically inclined, would want to stand accused of contributing to the destruction of the civilization of which he is a part, either by active sabotage of it, or by failing to take action to prevent others from sabotaging it.

RECENTLY A MEMBER of Technocracy reported a remark made by an individual to whom he was talking, after this individual recognized the symbol of Technocracy on the Member's lapel. This individual mentioned that members of his family used to be interested in Technocracy during the depression years. 'Then,' he said, 'somebody in the family got a job.' This succinctly describes the degree of interest that a great many people have had in Technocracy in that 'dim past' when they had personal problems brought about by economic adversity of the depression days. It further describes the shallow depths of their concern for this great Continental area and the civilization which has been developed here. These same people occasionally wonder at odd moments 'what ever happened to Technocracy.'

Through no reason of the support nor genuine understanding of Technocracy by past superficial adherents to its technological concept, Technocracy is still here to guide and instruct those who have the native intellect to grasp its Body of Thought.

In fact, outside of the hardy and determined Membership which today makes up this Organization, there is no good reason why a concept such as Technocracy should have survived the past fifteen years of an unparalleled opulence in North America. Up to now, war and armament activity, enormous government and private debt expansion, and carefully planned propaganda campaigns, both political and clerical, have militated against any intelligent social thought obliterating everything in the way of social movements except Technocracy. At this time there isn't an effective force in North America for social change outside of Technocracy Inc. Even the most prominent and militant past leaders of socialistic and labor movements have either renounced their past ideals, or have compromised themselves into innocuousness. In some cases they are even singing the praises of the Price System.

From a sociological standpoint, the dissipation of dissention with the status quo by the citizens of this Continent is of deep significance. In a few words, collectively the more capable people of North America are losing their militancy to survive, that broader social will fight for progress which makes and perpetuates greatness in nations and civilizations. Their behavior, and factors which influence this behavior, are symptomatic of a progressive social disease not unlike paresis. Paresis is the final stage of syphillis, when it attacks and destroys the central nervous system, debilitating the individual to act rationally. Often it is accompanied by delusions of grandeur.

The prime target of this social paresis is that small element of the citizenry which possesses the native intellect to grasp the situation and act to supply leadership when confronted with problems of greater magnitude. Lower levels of intellect are, by reason of lack of capacity, immune to the ravages of the disease.

Negligence of Social Responsibility

A fundamental basis for the present social attitudes and negligence of social responsibility for the future of this Continent lies in the present heterogeneity of national origin of its populace. North America was first settled by peoples of Anglo-Saxon origin. This stock through world history is shown to have been more progressive. They were the first to challenge the tyranny of kings and the Roman Catholic Church, and win, as they were the first to nurture industrialization. It was natural that the Anglo-Saxons would be first to establish themselves in force on the North American Continent, and then one-hundred sixty eight years later, defy and gain freedom from control of The Crown in seven years of tortuous struggle. Likewise, did this type of people spearhead the great westward movement in North America.

After the turn of the Nineteenth Century began the influx of other western Europeans, at an accelerating rate until now the original Anglo-Saxon stock constitutes only a minority of the total population of North America. Why did other peoples come to this Continent? The only practical answer is to improve their personal lot. North America was the promised land, the potential bonanza for them, if they scraped and chiseled hard enough and long enough. North America offered latitude for personal gain that the fixed and static cultures of their homelands would not permit.

It is precisely this dominent theme of personal gain, at the expense of the welfare of this Continent, which wells up out of the past, and today presents the most critical social problem which can plague a civilization.

The vastness and richness of North America has permitted the development of an opulence in the production and consumption of goods and services which knows no parallel in recorded history. We point with pride to inadequate highways, clogged with shiny 200 horsepower automobiles, and to sprawling suburban communities of new homes, as evidence of national greatness. Countless millions of words are written and spoken, eulogizing the 'great social system of free enterprise' which is alleged to have made all of this possible. It has been said so long and loud that even those who are capable of knowing better are coming to believe it. And in their acquiescence to the propaganda of foreign background and origin, they are contributing to the incipient decline of this civilization which is only now, after a meteoric rise, on the verge of real and meaningful greatness.

As stated earlier, there are many people—enough—who know that the way to Continental greatness, and more basically, the preservation of this civilization, does not lie in the direction of individual anarchy. They know from contact with Technocracy that this Organization is presenting the only clear and decisive course for North America to follow. But some of them have been naive to the extent that they think some day in the future 'the people' of this Continent will proclaim themselves for social change and Technocracy. Then would be the time to get off their posteriors and begin to organize themselves. These potential leaders of the movement for Technocracy will contend that 'people aren't ready yet.' They forget that people in general are never 'ready' for social change. It just happens. And it is always fought bitterly until there is nothing left to do but go along with the movement. Then if there is positive leadership, the change may be consummated with minimal social disturbance. If not, it will be another story.

The heterogeneity of the mass origin of North America presents a more complicated problem than has confronted most civilizations. In the hodgepodge of nationalities are strongly entrenched religious blocs, which are turning the heads of the populace everywhere but toward its collective problem of here-and-now survival. The collective moronity, especially in this day of religious fervor, has relegated all of the responsibility it can to God, and whatever is left over to the politicians. The multitudes are split a thousand ways by special interest groups, and should present a dreary picture to those who have thought that something constructive and decisive could be expected of them. The crowning complication of the social picture of North America lies in the nature of the interdependency of its people.

Social Change in the Last 50 Years

The great and swift change which has taken place in North America in terms of the manner in which things are done—production and distribution of the necessities of living—introduces with a new force the importance of the time factor in our present social change. A bare fifty years ago, the application of science to industry began on a scale never before witnessed, shoving the population from the land and into urban areas. Where fifty years ago over eighty percent of the population lived in farming areas, with the remainder in urban areas, now the reverse is true. Nations and civilizations of history, such as China, India and many of the European countries have wallowed in social dissolution for many years, and even centuries, finally to experience a renaissance. Dissolution in North America, with our dependency upon complex systems of production, could only mean disappearance of the civilization. A few weeks ago the gas union in St. Louis called a strike. Within a matter of hours, thousands of people in that city couldn't so much as take a bath.

We are 'treated' to the spectacle of political conventions in which the politicos do slobbering tribute to the 'greatness' of their voting constituency, greatness, that is, if the morons put those who are doing the talking into office. In these speeches are liberally sprinkled response and alarm words like 'Providence,' 'patriotic duty,' 'free enterprise system,' 'communism (said with a snarl),' and 'The American Way.' Hysterical applause and howling acclamation greets these compositions of jibberish. For all of this facade, behind it is mutual contempt of the politicians and the people for one another.

No one hardly ever says a good word for a politician. He is most often an object to ridicule, someone upon whom the people may vent their spleen and derision when things don't go well for them. The character of the politician can have no integrity, but must be readily pliable in any direction, depending upon the source of pressure. He is notoriously a cowardly and contemptable individual, which is sensed rather than understood by the masses of people. But, nonetheless, it is through him that the people escape their social responsibility, and they are willing to pay the price, however costly. Such government has given them the latitude to pursue their petty aspirations. This is 'the will of the people' and why North America struggles in vain to meet new challenges at home and abroad.

When peoples, as on the North American Continent, succeed in designing their governments to reflect their wishes, though those wishes may be no greater than to own and sport a Cadillac, then that society is well on the way to committing suicide. And though all but a fraction could never even attain the goal of owning a Cadillac, the chislers and politicos have sold them on the possibility. All of this is not stated for the sake of being derogatory. A Continent's future is at stake. The general public has been made out a pack of suckers. It is the most colossal swindle ever perpetrated upon a civilization, this 'individualism' psychology, by the most double-dealing and heartless organization of chislers ever concentrated in one land area. The people of this Continent cannot be held responsible for how they behave or what they are. They merely reflect the attitude of their so-called leadership. They do not know, and cannot conceive that they could have far more thorough social operation by science and engineering than they can ever have under this debased Price System.

Declining Esprit de Corps

As this social debasement spreads and encompasses ever more of the North American population, correspondingly the espirit de corps of the Continent declines, As demoralization sets in, international relationships with other people become more difficult to manage. Direction is lost in the conduct of affairs. The 'will of the people' does not begin to reflect the requirement of dealing with a world filled with tensions and pressures of every description.

Technocracy points out that North America is, for all of its material wealth, in the most critical circumstances Continentally and internationally of any time in its history. Land areas, already groaning under the weight of population, are steadily increasing in population. At the present time the population of the earth is increasing at the rate of 85,000 people per day. More than two-thirds of the people of the world's population are hungry all the time. Great blocs of peoples are gasping for bread and water. With total failure of internal organization in North America more than a bare future possibility at the present rate of deterioration, in a matter of days this civilization could be a smoldering wreckage. Our enemies and not-so-friendly allies would be quick to wage a scrap over the remains.

Sabotage

No individual who posses native intellect, and who is not psychopathically inclined, would want to stand accused of contributing to the destruction of the civilization of which he is a part, either by active sabotage of it, or by failing to take action to prevent others from sabotaging it. Yet, this is exactly the position of a great many people who know more about what is going on than they care to admit. Some of these people are being bought off, in effect, by seizing opportunities for personal gain. They think it is expedient to their own ends not to be identified with anything that might appear to be controversial. Others have allowed themselves to become intimidated by the 'red' hysteria generated by human beings who are deserving only of their contempt. Still others are foolish enough to think that there is no use to try to deal with the situation themselves, at least at this time, and that things probably will work out all right whether they concern themselves with the civilization's problems or not. And then there are those individuals who have not had an opportunity to learn. But whatever the cause may be for social inaction, and whether we realize it or not, we are engaged in a race that we cannot afford to lose, to arrest and reverse the trends of social deterioration on this Continent through organization, so that we may rise to meet the challenge presented by this age of science and technology, organized and ready, to guide the mass of people of North America to their destiny of abundance and security.

North America has one strike against it by the conglomerate nature of its population, and its profusion of special interest groups. It has no ingrained tradition from which can spring a national fervor for a 'fatherland.' And much of the drive and militancy which characterized pre-industrialized North America has been diluted and bred out of the population. But this Continent has a Body of Thought that can more than compensate for these lacks.

Science has given to the people of this Continent the opportunity to gain a whole new perspective. It has provided not only mechanical contrivances but a method with which this civilization may be reorganized, and means for expression of human aspirations in an ideology of social governance which pales to insignificance every philosophic concept of the ages. Science is the natural common denominator for social operation because on this Continent it is the means whereby we live. The method of science applied to the administration of social affairs in North America is the only assurance we have of surviving this fearful age of contemplated racial suicide by nuclear devices. Technocracy, the embodiment and method of science, is here to translate ideas of the men of science into social action. It is entirely through Technocracy that the pioneering is being done to make scientific administration in North America a reality.

With the application of Technocracy to government of affairs we shall have a flexible administration, capable of adjusting to changing conditions, and ever ready to meet new challenges as they come. Now under the subversive influences of business and politics, the civilization is afflicted with dry rot and disintegration.

Come the Dawn of a New Era

Leadership toward a Technate now rests with Technocracy's Field Organization, which maintains operational offices throughout most of North America. The importance of the expansion of influence of this Organization cannot be over-emphasized. It is a certainty that a movement is coming from the people of this Continent for social change, but is will not be until the very last days of the Price System, which technology and its concomitant abundance decree are close at hand. It is known that anything which is strongly enough identified in this civilization under conditions of social ferment will get the attention of the multitudes. They will follow, not because they understand, but because they will have to go somewhere to escape the pressure, such as that developed during the past Depression. Whatever captures the mass attention will receive its acclaim. Technocracy proposes to be in the position to capture this attention. With an organization composed of only one-hundreth of one percent of the population, willing to put forth a steady effort. Technocracy would, even now, be well on the way to realizing its goal of gaining public attention. Nothing can be done by an individual to implement a solution to the problems of this Continent. But by organizing with others, we can do the job with relative ease. This is a point that consistently escapes the individualist.

Individuals often die simply because they do not have the will to live. This civilization may die because it cannot generate the militancy to survive. Is this to be the fate of North America? If it is not to be, it will be because you, the reader, decided to make a fight for the objectives of this Organization. There is greatness among Technocrats, the same pioneering greatness that carried this civilization to this point. Anyone would do himself proud to associate and work with them for an objective worthy of North America.

—12247-1

HOT GAS MOLECULES FROZEN

Pieces of molecules that exist only momentarily in flames and hot gases have been frozen solid, at 450 degrees below zero (472.9 degrees is absolute zero) by scientists at the National Bureau of Standards, U. S. Department of Commerce.

Intended primarily as a basic study on the properties of unstable atoms and molecules known as "free radicals," the work may have ramifications in such diverse fields as rocket propulsion, solid-state physics, basic chemistry, and food sterilization by radiation.

In experiments to date the Bureau believes it has produced in solid form atomic nitrogen, oxygen, and possibly atomic hydrogen and an unstable molecule consisting of one atom each of hydrogen and oxygen.

Atoms of hydrogen, oxygen and nitrogen are called unstable species or "free radicals" by scientists because they are not found under normal conditions. Known to exist momentarily in hot flames and gases, they can be generated artificially in the laboratory.

Under ordinary conditions an unstable species lives only a fraction of a second before it recombines chemically with another "free radical" or other substance.

In the Bureau experiments "free radicals" can be made stable almost indefinitely if kept below minus 450 degrees Fahrenheit.

Unstable species are formed by passing a gas through a field of microwave radar waves. This breaks the normal molecules of nitrogen or oxygen gas into atoms, two to the molecule.

—New York Journal of Commerce

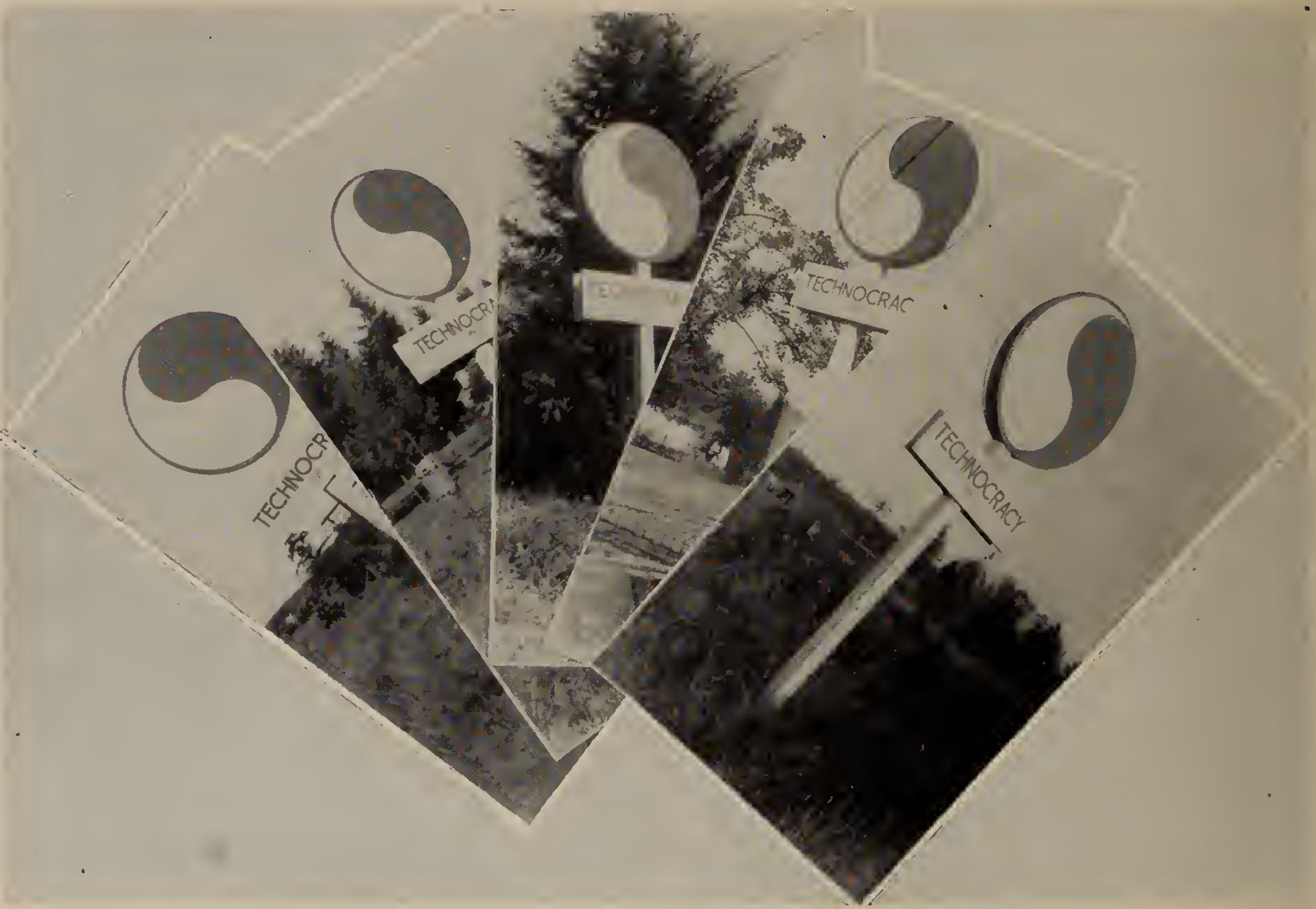
COFFEE PRICES DUE FOR DROP

A recent survey by the World Bank indicates that coffee prices are due for a sharp decline in the next few years. Overproduction is expected to result in large coffee surpluses, which may cause prices to fall as much as 50 per cent from the current high quotations. Since coffee is the mainstay of several Latin American economies, such a serious decline would reverse their prevailing prosperity.

—Bank Bulletin

TECHNOCRACY IN THE FIELD

The Members of Technocracy apply their efforts in various ways to bring to the attention of all North Americans the significance of the present social trends and the need for a technological solution to the problems which arise out of them. They realize that only through their activities and efforts is the public made aware of Technocracy's Program.



**This is a handful of real 'aces' as Technocracy plays America to win and the chips are down.
—Techphoto by Carlson**

Monad Road Markers

THE MONAD, an ancient symbol signifying two opposites in dynamic balance, used by the Chinese and others, has been adopted in vermillion and chrome (or vermillion and white) as the insignia of Technocracy. In Technocracy, the Monad symbolizes dynamic balance between production and distribution. Wide use of this emblem conditions the public to recognize it as Technocracy's symbol. The Monad Road Markers which border the highways of the North American Continent represent one of the methods of putting the emblem on the job, night and day, of acquainting those who will heed that Technocracy has information available about a scientific social program for North America.

While it is impossible to assess accurately the number of persons who are provided visual contact with Technocracy through the medium of the Monad Markers they are recognized as one of the best means of Symbolization.

The program of Monad Marker placement is carried out by the local Sections of Technocracy Inc. The Markers are built, painted, erected, and maintained by the Members as part of the all-over plan of making the public aware of America's rendezvous with Destiny.

—Dorris Biderbost, 12247-3

TECHNOCRACY

North America's Only Social Dynamic

WHAT?

Technocracy is the only North American social movement with a North American program which has become widespread on this Continent. It has no affiliation with any other organization, group or association either in America ro elsewhere. The basic unit of Technocracy is the chartered Section consisting of a minimum of 50 members and running up to several hundred. It is not a commercial organization or a political party; it has no financial subsidy or endowments and has no debts. Technocracy is supported entirely by the dues and donations of its own members. The widespread membership activities of Technocracy are performed voluntarily; no royalties, commissions or bonuses are paid, and only a small full-time staff receives subsistence allowances. The annual dues are $9.00 which are paid by the member to his local Section. Members wear the chromium and vermilion insignia of Technocracy — the Monad, an ancient generic symbol signifying balance.

WHEN?

Technocracy originated in the winter of 1918-19 when Howard Scott formed a group of scientists, engineers and economists that became known in 1920 as the Technical Alliance—a research organization. In 1933 it was incorporated under the laws of the State of New York as a non-profit, non-political, non-sectarian membership organization. In 1934 Howard Scott, Director-in-Chief, made his first Continental lecture tour which laid the foundation of the present Continent-wide membership organization. Since 1934 Technocracy has grown steadily without any spectacular spurts, revivals, collapses, or rebirths. This is in spite of the fact that the press has generally 'held the lid' on Technocracy, until early in 1942 when it made the tremendous 'discovery' that Technocracy had been reborn suddenly full-fledged with all its members, headquarters, etc., in full swing!

WHERE?

There are units and members of Technocracy in almost every province in Canada, and in addition there are members in Alaska, Hawaii, Panama, Puerto Rico and in numerous other places with the Armed Forces. Members of Technocracy are glad to travel many miles to discuss Technocracy's Program with any interested people and Continental Headquarters will be pleased to inform anyone of the nearest Technocracy unit.

WHO?

Technocracy was built in America by Americans. It is composed of American citizens of all walks of life. Technocracy's membership is a composite of all the occupations, economic levels, races and religions which make up this Continent. Membership is open only to American citizens. Aliens and politicians are not eligible. (By politicians is meant those holding elective office or active office in any political party.) Doctor, lawyer, storekeeper, farmer, mechanic, teacher, preacher or housewife—so long as you are a patriotic American—you are welcome in Technocracy.

Pamphlets

Introduction to Technocracy	25c
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Obsolescence of Politics

All of the political instrumentalities of national administration that have arisen from the operation of the governments of man in the production of scarcity by human toil will have to be dispensed with as being totally inadequate to serve the needs of America's tomorrow wherein technology produces abundance. The oligarchies and the democracies, the plutocracies and the autocracies, the monarchies and the dictatorships all alike fail to meet America's problem.

—Howard Scott

THE NORTHWEST Technocrat

JAN. '57

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- Concept of Abundance
- Advertising
- What Is Intelligence?
- 'They'

No. 186 (Vol. XXI)

25¢

Sec. 3, R.D. 12247
TECHNOCRACY INC.
Seattle, Washington

The Greatest Issue of All Time

IN SOME animal groups and primitive societies of men, a sentinel stands apart from the group to watch for impending changes in the state of affairs. This sentinel warns of approaching enemies; he announces the coming of friends or the nearness of food. Thus the group is left free of anxiety to pursue its usual activities secure in the knowledge that a guardian sentinel is alert and on the job.

Granted, the complexity of modern society requires a different type of sentinel than is required by the simple society of the tribal group; nevertheless, the need for the function remains the same. The masters of modern communication must fulfill that need if they are to remain useful to the society. It is apparent however that mass communication today, in acting as sentinel for the society, uses its superb facilities to misinform, mislead, distract, or lull the public into a sense of false security about the state of their social environment.

In the psychological process of behavior conditioning, the more of the senses involved such as seeing, hearing, the deeper and more lasting is the impression on the individual. Thus the 'power of the press' now aided and abetted by the 'power' of television becomes a colossal tool in the hands of those who control and use it. The deliberate negligence of those who control modern communication in North America to acquaint the public with the impending failure of the present method of social control can be nothing short of disastrous if present trends continue.

We, in North America, are led to believe by repetitious declaration that our so-called free enterprise system is the greatest economic system that will ever be devised by man; and our high standard of living is given as proof that this is so. The physical factors that make our high standard of living possible are ignored almost completely. It would not fit in with the slanted information given out by the press if people were made aware that the reason for their good fortune is that they are living on a continent which contains over half of the world's natural resources, over 75 per cent of the technically trained personnel and less than 9 per cent of the world's population. With this knowledge, it becomes apparent that the free enterprise system has very little to do with the abundance of goods. In fact, the Price System has actually been an interference to the full realization of abundance. Witness the policy of enforcing artificial scarcity in farm produce in order to keep prices up, and the manufacture of shoddy and cheap articles for quick turnover. The public has not been made aware of the inevitable depletion of some of our very strategic natural resources if the present wanton wastefulness is not halted, and so we go blithely on wasting them without thought of the future.

The present method of social control, with its base on the quagmire of political expediency, is greatly out-distanced by the advancement of technology. The Price System grew out of the age of scarcity and cannot function as a method of control for an age of abundance. The impact that technology has had on the means whereby we live is manifest to us all, but we are deliberately misinformed about what that impact has done to our form of governance. The fact that relative abundance was the underlying cause of the Great Depression of the Thirties has never been made clear to the public. And the problem of abundance has not yet been solved by the leaders of the status quo. All the problems facing them of finance, business, taxes, labor and foreign policy are tied to the

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COVER PICTURE

ELECTRONIC COMPUTER

The Remington-Rand Univac consists of the Central Computer, the Control Panel, the Control Printer and the Uniservos, a high-speed tape-handling mechanism. One reel holds 1,500,000 alphabetical or numerical characters.

(Photo courtesy of Remington-Rand Corporation)

JANUARY 1957 THE NORTHWEST Technocrat

ADVENTURE INTO FASCISM

The technology and physical abundance of North America are antithetical to fascism. This nation and this Continent should be in the forefront of those who would crush fascism in the world. Instead, we have failed in this social obligation to ourselves and to the world.

THE UNITED STATES OF AMERICA has the greatest array of technology in the world and the highest energy consumption per capita of any people, which places it in the position of being closer to abundance and human freedom than any other nation. Yet the administrators of this nation are catering to a social system that is best suited to a condition of extreme scarcity and under which the most vicious terrors and human repressions are practiced — namely, fascism.

In our international associations, our administrators show special affinity and affection for the fascist regimes and fascist powers of the earth. On the other hand, our greatest hostility is directed against those regions and those people which are most anti-fascist. No system of social management could be less suited to North America than fascism. Therefore, our official espousal of it is one of the contradictions that is driving this Continental society toward a social debacle.

Fascism is welcomed by many of those misfit people who are ambitious for positions of power and authority over other people; for, fascism permits one to achieve the most social power with the least personal qualification for it of any system. Under fascism, one needs merely have the title of authority to be a social leader; otherwise, he may be a moronic sadist. The history of Europe, Asia, and Latin America is replete with cruelties and blunderings presided over by fascist tyrants, who had the authority but not the personal qualifications for social leadership. This type of personality is drawn toward fascism as if by tropism. Even the Roman Catholic Church has to apologize for and 'explain' the behavior of some of its popes.

The two major fascisms in the world today are the Roman Catholic and the Mohammedan fascisms. Other prominent fascisms of recent date, which have suffered serious set-backs, were the Orthodox Catholic fascism of Tzarist Russia, the Shinto fascism of Japan, and the Lamaistic fascism of Tibet. In order for a barbaric tyranny to be fascist, it must have a religious as well as a political and economic basis; and it must be opposed to social change. The tyranny of Genghis Khan, for example, lacked a religious base and it supported, rather than opposed, social change; hence, the tyranny of Genghis Kahn was not a fascism. While Israel and India each have populations which are predominantly of one religion, neither is a fascism as yet, since the administrators do not insist on a religious base for citizenship or administrative position. On the other hand, most Roman Catholic and Mohammedan countries require that their administrators be of the 'one true faith.' Hence, such countries as Pakistan, Egypt, Saudi Arabia, Jordan, Spain, Portugal, Eire, Belgium, and nearly all Latin American countries are fascisms. Russia, China, England, France, United States, Canada (except Quebec), and South Africa are not fascisms.

While the United States is not outright fascist, not even in the deep South, there are various

The Northwest Technocrat is published quarterly by Section 3, R D 12247, Technocracy Inc., 2208 Eighth Avenue, Seattle 1, Washington Entered as second class matter July 11, 1949, at the Post Office of Seattle, Washington, under the act of March 3, 1879 Subscription rate is $1.00 for four issues. Single copy 25 cents Continental Headquarters of Technocracy Inc are located at Rushland, Pennsylvania. Entire contents copyrighted 1957 by Section 3, R.D. 12247, Technocracy Inc

fascist-type groups and fascist fronters and sympathizers within the country. Unfortunately, the pro-fascists speak with a very loud voice in the administrative circles of this Continent. Most veteran's organizations are now dominated by fascist principles, leadership, and attitudes. The Labor Unions, under George Meany, are rapidly succumbing to fascist domination; and this goes double for the east coast waterfront unions. Public relations offices, including censorship offices, are taking on a fascist hue. This hue is even more intense in the law-enforcement organizations. It is creeping into education, banking, the Armed Forces, and publications. It has already swamped the entertainment field. Even many of the lodges of Freemasonry are becoming palsy-walsy with Catholic fascism. Fascism is infiltrating government offices, being particularly prominent in the State Department and the White House staff.

Fascism frequently manifests itself through terroristic tactics, including mob violence. In some fields, fascists may resort to quiet intrigue and patient scheming, while in other fields of operation they resort to assassination, terror, destructive mob action, and the Big Lie propaganda technique. The history of fascism is black with mass slaughters and genocidal liquidations. For example, the Crusades directed their slaughters not only against the 'Saracen infidel' but also against the Orthodox Catholics and 'heretics' (early Protestant groups). The fascism of Admiral Horthy in Hungary has seldom been equalled for sheer terror. The fascism of Hitler Germany set out to incinerate all non-fascist elements in the population of Europe, particularly the Jews and Orthodox Slavs.

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In the United States, much organized violence is traceable to fascist sources. The major exception is the organized opposition to Negro advancement in the South; that is only semi-fascist. Pro-fascist mobs can usually be furnished as required by simply recruiting student bodies, veterans groups, American Legion posts, labor union locals, and foreign expatriates whose ideological background is sympathetic to fascism. Such mobs may be used to oppose the appearance of a speaker or entertainer not approved by the fascist hierarchy; to shut out the showing of an 'objectionable' motion picture; to prevent the loading or unloading of certain freight or baggage on ships in American ports; to break up meetings of Jehovah's Witnesses and other 'heretic' groups; to protest justice being done to fascist criminals; to demonstrate in favor of fascist causes abroad. Pictures of anti-peace demonstrations in South Korea, interestingly enough, show large numbers of uniformed parochial school children in the foreground.

Fascist Terrorism

The mutilation of slain corpses is typical of fascist terrorism and war. Mohammedan fascists normally destroy the wounded and mutilate the bodies of the dead. Throughout the Catholic wars of Medieval Europe, it was routine procedure to butcher the wounded and chop up the bodies of the dead. The Franco fascists in Spain were notoriously cruel to their captured prisoners. Torturing of political prisoners in Latin America is regular practice. The sadistic viciousness with which the bodies of non-fascists were mutilated in Hungary during the recent attempted coupe d'etat is characteristic of fascist behavior everywhere.

THE DEAD OF BUDAPEST

The News Statesman and Nation (London) reporter, Bruce Renton, writes from Austria:

"There was a smell of mouldering corpses outside the Hungarian parliament. It was dusk . . . The population hurried over the rubble in Rakosi Street. They crowded around the cars of western journalists. For the moment they paid no attention to the youths nearby engaged in tommy-gun battles with the last of the AVO secret police troops in the houses . . . The trophy of an Italian colleague brought home to me the fact that this had been a revolution in the real and full sense of the word: it was the blue-banded hat of an AVO officer. The previous owner was hanging by his feet from the yellow-leaved branches of the tree outside the AVO central barracks on the Pest bank of the Danube.

"Budapest that night was a city of candles. From afar it had at times a Scandinavian Christmas air. Candles in the windows of the houses, candles in the cemeteries, candles over the corpses of the freedom fighters stretched out and draped in green, red and white flags in Republic Square, in a great feast of the dead. Boys, solemn and determined, tearless, lit candles on the spot where their fathers had fallen. But the faces of the AVO troops whose bodies were heaped in the square had been crushed and spat on. Scores of cigarette ends had burned them beyond recognition."

We do not contend that other peoples, from primitives down to modern civilized people, are lily-white in their treatment of other human beings; but you will have to search a long time to find anything to match the barbarities of fascism. Where can anything be found to equal the cruelties and sadistic killings of the Inquisitions? What could be more revolting to human sensibilities than the techniques employed by the French rulers and the Vatican in liquidating the Knights Templars?

Even within the folds of modern 'democracy,' the hounding of 'dissenters' in the United States under McCarthyism reached the proportions of a national disgrace. This inquisition, for some reason, was directed mainly against the Jews. McCarthyism is a mere hint of what would happen in America if the fascists really got full control of the country.

American big business and finance in the early stages were not fascist, although they were viciously tyrannical and predatory. Their principal objective was loot. It is only lately that big business and finance have been allying themselves with fascism. Since the beginning of World War II, there has been a steady infiltration of fascism into the head offices of the big industrial, business, and financial institutions of the country. For example, the Chase National Bank and the Bank of Manhattan, which have been traditionally non-Catholic, have now consolidated into the Chase Manhattan Bank with John J. McCloy as Chairman of the Board. This bank is now second only to the Bank of America (formerly Bank of Italy) in size; and that has always been Catholic controlled. Big business looks forward to a future under fascism.

Big business and finance are not as yet unified in their social objectives because of the present gigantic struggle that is going on among the separate units for control of business enterprise and the manipulation of money. But, at best, this is only a delaying phase. The trend is on and it can progress in only one direction under the Price System.

In the political field, fascism thrives best under a monarchy, although a dictatorship serves as a reasonably satisfactory substitute. However, political fascism is not limited in its choices to these two alternatives. It can also operate as an unofficial regency back of a puppet regime. In this case, the nominal political heads may even exhibit the appearance of democratic republicans and be confirmed in office by popular voting, yet serve faithfully as front men for the fascist regency. The headquarters of such an unofficial regency in the United States need not be in Washington at all; it could, for example, be in New York City, let us say in the vicinity of Fifth Avenue and Forty-Ninth Street. However, it would be important that the chief advisors, arrangers, and spokesmen for the political heads be in cahoots with the regency. Also that as many government offices as possible be filled with pro-fascists. There is no reason to believe that those details are being neglected in America.

In the international field, the United States has allied itself firmly with the forces of European fascism centered in Rome. And, as allies of Rome, we are committing ourselves to achieving the objectives of Catholic fascism. One of these objectives is the restoration of the old Holy Roman Empire in Europe. Another is the destruction of the Soviet Union. In Europe, we have set up a military alliance called NATO to aid in achieving both of these objectives. The first step is the setting up of a joint military organization in Western Europe. Secondly, efforts are being made to establish an economic alliance along the same lines. Later, it is anticipated, a political and spiritual consolidation will take place to form the new Holy Roman Empire. Because of the diverse nationalities and rivalries in Europe, plus conflicting incentives, this program is dragging not only its feet but its whole rear end. Fortunately, many Europeans who have had unhappy experience with fascism and have been sickened by it, are wise to the scheme and they object to its realization. Further, when it comes to economic tribute, most individuals and groups will double-cross their political and spiritual alliances if the most loot lies in that direction.

An obvious collusion between the United States and European fascism for the destruction of the Soviet Union is still in a very active stage. In spite of its catastrophic set-back in World War II, fascism is again reorganizing its forces for the same objectives; for, fascism never admits defeat and never abandons its objectives. There is no such thing as a reformed fascism. There is considerable evidence to support the theory that the United States, Britain, and France (in spite of their being 'allied' with the Soviet Union; that is, ostensibly, fighting on the same side) were actually more eager for the defeat of Russia than for the defeat of fascist Germany. The conduct of the United States in Europe since the war gives heavy weight to this theory. We have consistently supported fascist parties and pro-fascist governments in opposition to non-fascists, notably in France, Italy, Greece, Netherlands, West Germany, and Belgium. We have actively espoused the fascist cause in Poland, Hungary, Czechoslovakia, and the Baltic States. We have been disgustingly friendly with Franco Spain and Salazar Portugal.

Vatican-Washington Alliance

The Cold War has been primarily a Vatican-Washington aggression against the Soviet Union. We have done everything we could to interfere with trade between the Soviets and other nationals. We have boycotted Soviet and satellite goods in this country. We have established hostile propaganda agencies along the Iron Curtain, and at every opportunity, we have sent in hostile agents. We have insisted on a Roman Catholic church being maintained in Moscow in connection with our embassy there; and most of our ambassadors to Russia have been sympathetic with fascism, particularly Walter Bedell Smith. (Incidentally, Walter B. Smith was also General Eisenhower's Chief of Staff during World War II, hence was in a position to 'help' Ike make his decisions.)

Besides the official Information Service and the Voice of America, we have supported 'independent' agencies of propaganda and espionage in Europe, such as the Crusade for Freedom, Free Europe Committee, Radio Free Europe, and Free Europe Press. (In these contexts, 'Free' should be translated as 'fascist.') These 'private' agencies have been financed by large American corporations, such as Standard Oil of New Jersey, United States Steel, Ford Motor Company, etc. The United States postoffice lets its facilities be used to collect funds from the public for the Crusade for Freedom; and how much is filtered into these agencies from the CIA, State Department, and Defense Department is anybody's guess. It is admitted that Free Europe Press has, to-date, released around 400,000 plastic balloons (some of enormous size) carrying cargoes of propaganda leaflets and other items over Eastern Europe. Radio Free Europe operates 29 powerful radio stations from West Germany and Portugal alone, beaming programs to East Europe in various East European languages.

The propaganda balloons have been responsible for at least one major airplane disaster. The propaganda leaflets and Radio Free Europe broadcasts, although actively sponsored by the United States, are responsible to no one; and nothing is done to curtail the nature of the propaganda they release. Much of the 'credit' for the Poznan riots in Poland last summer and the more recent debacle in Hungary is claimed for these agencies. It is evident now that the Hungarians and Poles 'acted up' on the belief that large military forces from the West would rush to their aid, as promised over Radio Free Europe broadcasts and in Free Europe Press propaganda leaflets.

In our Cold War in Europe, we have centered our attentions on Poland, East Germany, Hungary, and the Baltic States. All of these have large Roman Catholic populations, notably Poland, Lithuania, and Hungary. Other centers of fascism are Slovakia in Czechoslovakia and Croatia in Yugoslavia. East Germany has been the most accessible country of East Europe; and, with the aid of West German fascists, we have been able to make numerous contacts. Following the peace treaty in Austria, we have used that country as a corridor of access to Hungary. Although Austria is officially committed to neutralism by the peace treaty, we must remember that Vienna has been one of the major centers of fascism in Europe for centuries—and fascists are never neutral.

The Cold War agencies have tried desperately to provoke a hot war condition in Europe, using the 'sad fate' of the poor East European peoples as an emotional basis. You probably remember how our propaganda and news agencies frothed at the mouth over the arrest and conviction of Cardinal Mindzenty of Hungary as a confessed criminal. Such propaganda barrages have all been hypocritically designed for a purpose — to generate hatred for the U.S.S.R. We have never been as concerned over populations and individuals in other parts of the world who have been subjected to worse fates than these. For example, how many Americans recall any fuss being made here over the slaughterings and cruelties in Budapest perpetrated by the White Terror of Admiral Horthy? Or by the Arrow-Cross of Hungary (of which Cardinal Mindzenty was vicar general) prior to World War II? Or over the mass slaughterings of captured Republicans in Spain by the Franco fascists? Why is it we have found it so easy to forgive the Germans for the millions of people they systematically killed and cremated before and during World War II? For the hundreds of thousands of Russian prisoners that were allowed to die from exposure, hunger, and ill-treatment? Yet we still have not quieted down about a few thousand Polish officers that were slain by unknown parties in the Katyn Forest. Could the difference be that the former victims were non-fascists and the latter were fascists?

Rioters Expected Western Support

There is no doubt that the recent 'uprisings' in Hungary were provoked and instigated by pro-fascist agencies of the West and that they operated through fascist sympathizers in Austria and Hungary and through imported agents. Obviously, the Hungarian rioters expected support from Western Armies; and no doubt more official effort would have been made to authorize that support, except for one thing. That one thing was the 'double-cross' of Britain and France in their attack on Egypt. This so confused the situation that the intervention in Hungary could not be organized in time. Prompt action by Russia put a stop to the attempted coup d'etat. The West's deep sympathies for the poor Hungarian people were then put to a test by Russia's letting tens of thousands of dissident Hungarians 'escape' across the border into Austria.

Propaganda as to the 'plight' of the East European peoples is still being used to generate hatreds essential to an active promotion of World War III. Since it is obvious that another World War will have to be instigated if the Soviet Union is to be crushed, the United States cannot allow anything to develop that will lessen tensions between the East and the West. President Eisenhower has stated time and time again that the East European countries must be 'liberated.' That means global war! (And he tries to pass himself off as a Peace President.) We may expect another try for a war in Europe when Western fascism can think up another means of provoking it.

Our adventure in fascism in Asia parallels that in Europe, although Asia is our second choice for bringing the issue to a showdown. Our official sympathies are with the fascist elements of East Asia, namely South Korea, Japan, Formosa, the Philippines, South Vietnam, and a few minor spots such as Goa. We were very much disturbed over the curtailment of fascism in Tibet. We are committed to go to war against all Asia if necessary to preserve fascism on Formosa. We have already gone to war to preserve fascism in South Korea. We did this without hesitation, although at the time we fully expected the war to include Russia and become worldwide. Only when the Russians did not intervene and the prospects of our becoming bogged down in China increased did we lose heart in that war. Certain high officials and personages in America eagerly awaited the invasion of Formosa by Red China as a pretext for our jumping into a Hydrogen Bomb war. The mass populations of China offer a very attractive testing ground for the actual destructiveness of Hydrogen Bomb warfare.

Pending the development of a war against China, we tried desperately to surge into Indo-China on the side of fascism, but we could not achieve enough cohesion of sentiment for it in time.

President Roosevelt played along with fascism in order to receive the Catholic vote in the United States. President Truman supported fascism for the same reason, although he was less desirable as a front man—he was too whimsical in his actions. He even had the crust to fire General MacArthur, who on his return to New York was greeted affectionately by Cardinal Spellman with cap in hand. Since 1952, Eisenhower and Nixon have been the darlings of fascism in America. They have demonstrated a high capacity for being manipulated.

Adlai Stevenson was twice defeated largely because of suspicions by the pro-fascists that he could not be trusted with carrying out Vatican policy; besides that, he is a divorced man, and Roman Catholicism does not approve of divorce.

The technology and physical abundance of North America are antithetical to fascism. This nation and this Continent should be in the forefront of those who would crush fascism in the world. Instead, we have failed in this social obligation to ourselves and to the world. We have defaulted the leadership against fascism to Soviet communism, a social system that is also tyrannical in its methods and crude in its tactics. Instead of combining with Russia at the end of the war to liquidate fascism once and for all, we have chosen to go over to the enemy and split the world into two hostile ideological halves. As a consequence, we have endangered mankind with atomic annihilation. We have forced the Soviet bloc to achieve technological parity with the North American Continent in order to withstand the threat of fascistic destruction; and, now, there is a possibility that Russia will soon surpass us in technological capability. The salvation of fascism is not worth the price we have paid for it. It could have been liquidated at a fraction of the cost.

Now we find ourselves confronted with a dilemma—the paradox of supporting both technological progression and medieval reactionism. If fascism has its way, we shall be obliged to abandon our technology; but, first, we shall be asked to use it to destroy the Soviet Union and otherwise subjugate for Rome all the non-fascist areas of the earth. Since abundance and fascism are incompatible, the fascists would have us return to human toil and scarcity. The Roman Pope has condemned both technology and human leisure, while he has blessed penury and toil.

We have had our adventure with fascism. It has been ridiculous; it has been costly; and it has been futile. It can be infinitely more costly if we keep on. It is high time we abandoned this course. Further, it is time for us to take an active hand in helping to flush fascism down the drain of history into the cesspool of forgotten nightmares.

Americans have the opportunity to awaken into the sunshine of a New America of abundance, security, and freedom from toil. That is an adventure that is both exhilarating and glorifying. It is a positive advance from our present negative retreat.

Technocracy has always been anti-fascist; and, in view of the wide divergence of the social objectives of the two, it must ever be so. But let no one be taken in by the false syllogism that, because the communists are anti-fascist, Technocracy must be pro-communist. For, Technocracy has always opposed communism also as a synthesis for the future of North America. We regret that America has, by default, forced the communists to be the major standard bearers against fascism—a position which by rights should be held by North Americans.

North American citizens, as individuals, can still reclaim self-respect for themselves and honor in the world by rejecting the propaganda of fascism and joining the only body of people on this Continent that is working for a realistic future for our Area—Technocracy. As Technocracy grows, fascism must fade away. The two have nothing in common; and Technocracy can be depended on to never make a deal with fascism.

So, let us offer this challenge to all citizens of North America: Go not backward with fascism, but forward with Technocracy!

—Wilton Ivie, CHQ

EDITORIAL

Continued from Page 2

problem of what to do with the mountainous production of our farms and factories.

The greatest issue of all time—what to do with abundance—faces the North American public; and the sentinels of our society, through the press and television, use every means at their command to distract, mislead, and soothe the public into a sense of security. Technologically-induced abundance of goods and services demands a new method of governance—a new method of mass distribution in keeping with the mass production. The organization, Technocracy Inc., has the design for a functional administration and a technological system of distribution. Which shall we have, disaster or opportunity? Somewhere along the way within the next very few years, America faces either the greatest disaster of all time, social chaos, or the greatest opportunity, a society in tune with our advancing knowledge and technological growth.

The mass media of modern communication have failed deliberately to acquaint the public on almost all counts with the impending dangers in its changing environment. However, Technocracy stands apart and ready, with a plethora of factual information, acting as sentinel for all who will take heed.

—Editorial Board

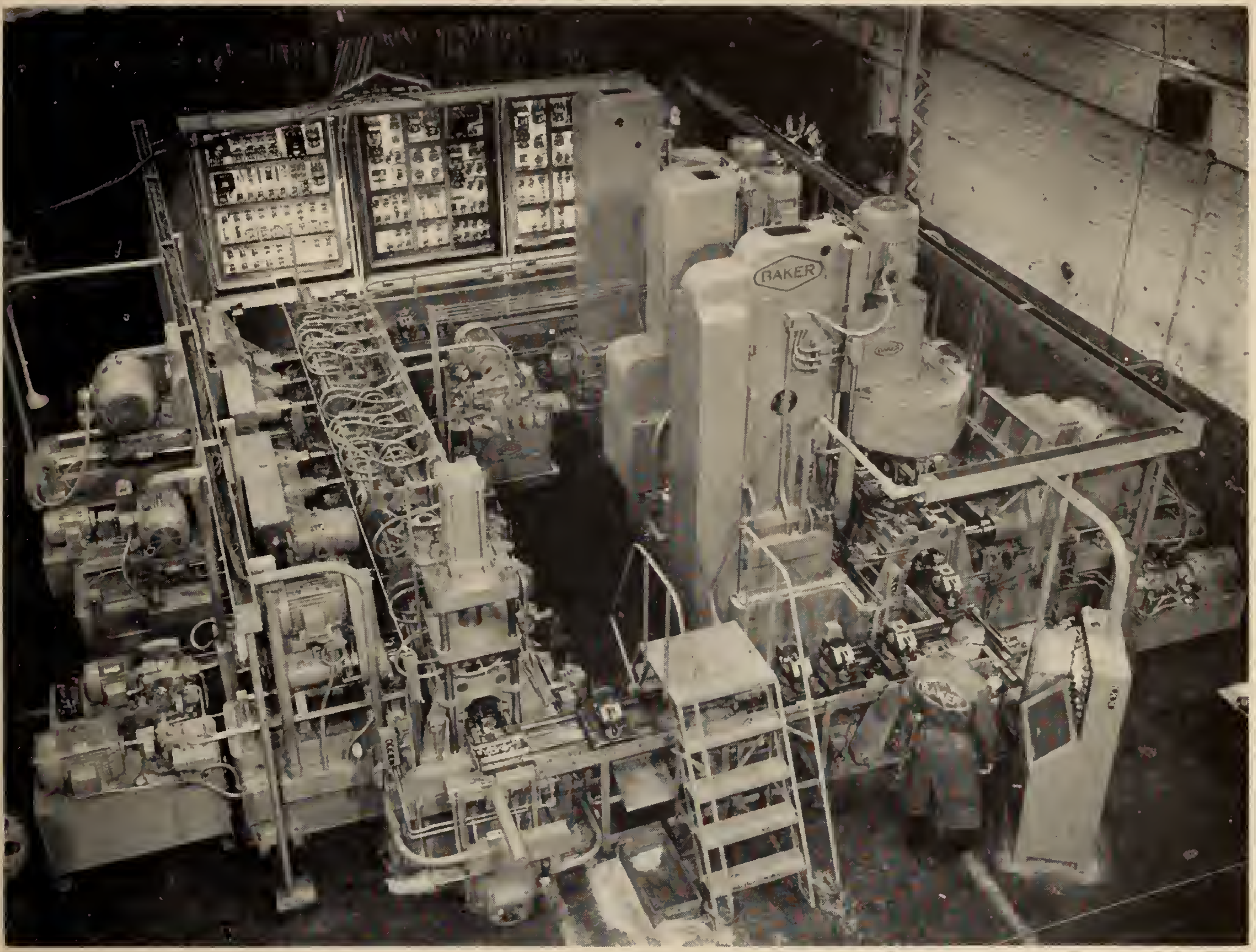

Photo courtesy Manning, Maxwell & Moore

The Transfer Machine with its operator at the master control panel replaces six other machines of various types in the production of forged steel valve bodies for high-pressure gate types Hancock steel valves.

Concept of Abundance

PROBABLY most of us glibly mention abundance with little concept as to what constitutes an abundance of any item. Many times abundance is linked with the amount the populace could purchase or even with the amount an economy is willing to go into debt for. An abundance of any one item destroys the price of that item unless an artificial scarcity can be imposed upon that item. An abundance of goods and services is the amount of goods and services which all of the people in a society can effectively use.

The production of an abundance of goods and services for all of the people on the North American Continent is a gigantic task. Without the help of a tremendous amount of extraneous (non-human) energy, this accomplishment would not be possible. In order to accomplish this task it will be necessary to eliminate the superfluous work which is present now. (Much more than the financial institutions are involved; to merely mention them would be misleading.) By training these people in useful fields of endeavor, the Continent will have enough people to carry on the task of producing abundance and still have enough leisure time for all to enjoy life and what abundance can bring to life. After all abundance without leisure time to enjoy it would be little better than toil in the hand tool society.

There are three basic things necessary to insure that an economy will be able to achieve a state of abundance. First, there must be an ample supply of raw material within the boundaries of that economy. Secondly, the economy must be at such a stage in its development that almost all of the work being done is accomplished by extraneous energy. And thirdly, within the economy there must be enough trained technicians and engineers to design and operate the most complex machinery for the production of goods. Much of this machinery is already in place and functioning.

The production of an abundance of goods necessitates that a large portion of the production must be done by automatic machinery. The rate at which our economy is achieving this goal can be measured by the time necessary to amortize the complex equipment essential to do the job. Before the advent of automatic, high-speed machinery, the time to amortize slow, low production machinery would be from ten to twenty years. Today complex, high-speed automatic machinery, which is much more expensive than that machinery it replaced, can be amortized in as short a time as six weeks. When machinery can 'earn' its cost in so short a time, is it any wonder that so much new machinery is being installed? Each time machinery is replaced, it is by machinery having a greater capacity, higher speed and more automatic control.

Production and Distribution

One can observe that in order to produce and distribute an abundance of goods and services vast amounts of automatic machinery and huge quantities of power (mostly electrical) must be produced and in operation for a long time. In order to obtain some idea of the needs of civic, state and national functions along with the residents in the area, a study of the present producing potential will give us a concept of the production of large quantities of goods and services. On the financial page of large newspapers there is a weekly resume of the production of major lines of business.

By analyzing each of these production figures in the resume and by expressing these figures in a more understandable form, one might have some concept of what is meant by 'abundance.' The weekly production figures give a comparison between the previous week and the same week a year ago with the present week. This is enough to satisfy most people for they are only looking for a hint to bolster their faith in their business ventures. However, for people wishing to know more about their economy, a careful study is necessary. A portion of the resume is reproduced below:

Nov., 1956	Latest wk.	Wk. ago	Yr. ago
Steel Production (% of cap.) . .	100.4	100.1	99.2
Freight carloadings . . .	772,761	800,272	792,042
Misc. freight . .	377.037	388,205	394,097
Auto production	177,531	162,131	213,468
Soft-coal prod. .	10,160,000	10,585,000	9,874,000
Crude-oil prod. .	6,921,950	6,856,500	6,690,250
Engrng. awards	$369,852,000	$281,014,000	$401,695,000
Paper production (% of cap.) . .	98.8	100.6	101.8
Paperboard prod. (% of cap.) . .	95.0	96.0	102.0
Bus. failures . .	219	271	207
Electrical prod. kwh	11,522,000,000	11,487,000,000	10,878,000,000
Money in circulation . . .	$31,141,000,000	$30,963,000,000	$30,794,000,000

The first item in the list is basic to the sustenance of a high energy civilization. Steel production, listed as a percentage of capacity, is at the rate of 2,400,000 to 2,511,000 tons per week. Most of this production is accomplished by thirteen major steel plants operating on a 40-hour week. To better understand just how much steel this represents, let us break it down into items which could be made from this huge quantity. This is enough steel to make 450 destroyers, 60,000 spindle turret lathes, 60,000 fire engines, 4,800,000 washing machines, 180,000 automobiles and trucks and still have about 690,000 tons left over for the building trade to use —all of these items from just one week's production of steel. The steel plants will soon have in operation continuous strip mills running at the rate of 10,000 feet per minute (113 mph). When production rates approach this speed, only a few competent operators controlling automatic machinery will be functioning. The employment in these steel plants is now about 564,000, but is destined to be cut sharply by introduction of new processes.

The many uses of steel as employed by the Price System in such items as automobiles, washers, dryers, dishwashers, stoves and refrigerators, may very probably be changed in a functional economy of abundance. The steel in a functional economy must be used in products which have a high load factor. This is a decided departure from a family using a washing machine once a week or the dishwasher once a day or the family automobile for one hour a day. Steel would be used to build large busses for transporting the people of the area. The concept of suburbia may even have to change in order to provide convenient, rapid transportation for the people. Most of the use given our automobiles is to go to and from work, to shop for groceries and to go to the department store downtown. Many cities have shopping centers in which one may buy almost any article under one roof. The steel would probably be used to build modern launderies, modern kitchens and modern restaurants. The mode of living in a functional economy would probably be geared to the production and distribution of goods and services for all of the people in the area instead of only that class of people who might be able to purchase the products.

Geared to Family Unit

In the Price System economy, as we know it, almost everything is geared to the production of gadgets which allows a family unit to operate in carrying out their daily living. Much of this gadgetry is patterned after crude hand tools and is just a refinement of doing work with less toil. The proponents of the Price System stand to gain the most by this type of operation so we hear much about how well off we are in comparison to those people who lived thirty, sixty or one hundred years ago. But no mention is made of how well off we probably could be if a functional economy were allowed to exist.

Steel can be alloyed, plated and nitrided in order to obtain the qualities necessary for its use and for its protection against the elements. In the Price System operation it is often expedient not to include the use of this knowledge in the design of its products for obvious reasons.

The next two items in the above list give us some indication of the volume of traffic being carried on in order to get the products to the consumers. The freight carloading of 772,761 cars for one week can be expressed in terms of the length of trains. This would represent ten trains 662 miles long. If the miscellaneous freight were to include only motor freight, this item would represent a string of trucks 3210 miles long. The multiplicity of railroads in this country, which were formed when the amount of capital for a relatively small railroad was a major undertaking, makes for uneconomical transportation, not to mention the movement to hinder the development of water transportation in the Great Lakes region. The cost of transporting by water is only a fraction of the cost of transporting by rail. It is difficult to get a concept of abundance in transportation. In a functional economy the major flow of goods would probably be in a North-South direction instead of East-West traffic. However, the installations now in operation could be utilized in transporting food products in a North-South direction as well as moving raw materials to areas which could produce their own needs. By the use of more Diesel-electric locomotives to transport the goods more efficiently than the steam locomotive, the abundance of goods could be handled until such time that water transportation facilities could be installed.

The production of automobiles seems to be a criterion by which businessmen measure the economic health of the United States. Since this industry builds a large quantity of a large consumer item, the quantity of steel processed, of rubber vulcanized, of plate glass rolled and of cars sold determines the employment of a great number of people. It is necessary to add that employment is quite dependent upon the amount of indebtedness the financial institutions will allow. The United States and Canada surely have the machinery to produce enough transportation vehicles needed in a functional economy. As has been stated above, the transportation of large numbers of people would probably not be done by vehicles capable of hauling only six people.

Therefore, the high rate of passenger car production would not be necessary. The design of transportation vehicles in a functional economy would incorporate features for maximum utilization over long periods of time with a minimum of maintenance. A portion of the production facilities now in operation would be needed to produce vehicles. The rest could be converted to produce other items, such as large busses, trucks, earth moving machinery and cement paving machines. One can obtain the concept from the foregoing comments that producing vast numbers of shiny new automobiles is not providing transportation in abundance.

Suburbia

Living in the suburbs where one can have a lawn to care for, a play area for the children and a nice house among 'good' neighbors seems to be the mode of living today. However, the long ride to and from work in the family auto might dull the interest for living in suburbia. Adequate living conditions provided within the city's inner circle would cut down the need for individual use of automobiles. It is becoming apparent to most large cities that the parking problem downtown is really a tough one to solve; and in order to have the customers come to shop, something must be done about it.

Some of the ten million tons of soft coal mined per week and the nearly seven million barrels of crude oil pumped per week could be saved from being used in the production of power by developing our water power potential. A Continental Hydrology, such as proposed by Technocracy, would not only supply power but a means by which large quantities of goods might be transported by water at a minimum of cost of irreplaceable resources.

The concept of abundance in a functional society does not mean that vast quantities of goods are produced for selling to the family unit, but it is a coordinated effort to supply goods and services efficiently with a minimum of waste.

Engineering awards is a Price System barometer of the amount of materials to be used in the construction of plants, office buildings, housing and concrete highways. This entry in the resume might indicate to some extent the trend in employment, and also the amount of materials which might be used by the new production plants. In a functional economy it will be necessary to plan to integrate all operations of society. This type of operation will take the best engineers and technicians available to engineer a program which will serve all of the people to their best advantage. In the Price System there is no medium by which a record is made of the goods used. The Energy Certificate as proposed by Technocracy is designed so that a balance between production and distribution is maintained.

Paper Substitute

The production of paper and paper board products gives the businessman an indication of the flow of consumer items. A great deal of this paper is used to package and box food items. As long as the supply of trees lasts, the Price System will be able to waste huge amounts of paper. However, in a functional economy a study of materials which could be used more than once and afford good protection for the contents would be made. The raw materials to be used would have a continuous supply.

The number of business failures each week indicates the degree of difficulty small enterprises are facing. Even with all the help the federal government 'dishes out' to business, a number of them fail each week. The reasons for the failures may be that a new product has replaced the old and the company could not or did not change to producing a new line of goods.

Many times new companies with modern high speed machinery are able to flood the market with a new product in a relatively short period of time. This type of operation makes competition quite difficult for old companies possessing machinery whose design is thirty years old. Large establishments producing huge quantities of goods very seldom 'go broke' in the Price System. Large establishments integrated into the functional economy would produce goods of high quality with a minimum of waste and in huge quantities so that all in the area would be able to consume without being left out due to scarcity or due to the inability to pay.

Power for Posterity

Over eleven billion kilowatt hours of electrical energy being produced each week is the reason our nation can produce so much by so few people. About 98% of the work done in the United States is done by extraneous energy and most of this energy is in the form of electrical energy. By using the sun's energy in the form of the cycle of the raindrop is by far the cheapest way to generate electric power. The use of non-recurring resources soon depletes the supply forever. By continuing to use more water power to drive the turbo-generators, the power stored in resources such as coal and oil can be saved for future use or can be used at a slower rate so that our great grandchildren will be able to enjoy an abundant life.

At an ever increasing rate fewer farmers produce more food than ever before. The trend is to operate large farms using machinery to do more of the toil. In an economy FOR ALL, the farms would have to be large, well organized, and well equipped with the latest machinery. These farms would take advantage of the latest developments in fertilizers, planting techniques, hybrid seeds, watering methods and harvesting devices. It is more economical to produce a high amount per acre than to use lots of land reaping a relatively poor crop. By getting a high yield per acre the idle land can be sown in crops which will improve the soil.

The above is merely a synopsis of the concept of abundance. For further information about the economy of North America, we suggest that you visit the local section of Technocracy Inc.

—George A. Kellogg, Jr., 12247-3

Advertising ----
An Attempt To SELL Abundance

When the human engine is the only means of production scarcity is the order of the day, and there is no need to stimulate sales.

THE TWENTIETH CENTURY has witnessed the march of an ever-increasing number of workers from the factories and farms to other places of employment.

The steady diminishing of the numbers of persons required to perform functions related to the production of the physical goods to sustain life, maintain and even increase our standard of living, has released millions of workers to non-productive fields such as sales, advertising, government jobs and 'bird-watching' of various sorts.

In the following will be traced the growth of one of these non-productive activities — advertising — and will show that advertising is a function of abundance in a Price System economy as surely as four is a function of two plus two.

Until less than two hundred years ago, human toil was the only means available by which man could gain control over his environment and survive. His output was limited; his working day was from daylight to dark. Eight men working a twelve-hour day were required to spade one acre of soil. Scarcity prevailed and the emphasis, always, was on eking out an existence—on producing enough to survive. No means existed to change the rate of doing work, and social and economic conditions remained static. Man's finite capacity limited his standard of living to mere existence, and confined his problems to production for survival on a more or less individual basis.

When the human engine is the only means of production, the capacity to produce is less than the capacity to consume. Scarcity is the order of the day, and there is no need to stimulate sales or the exchange of goods. The demand far oustrips the supply of any product—and there's never enough of anything to go around.

Toward the end of the eighteenth century two developments marked the end of the human engine as a tool of production. The first, James Watt's steam engine, began pumping water from English mines, opened up a new source of power, and began the replacement of the centuries old hand-methods of doing work. About the same time here in America, Eli Whitney was busy applying one of the basic principles of mass production: the interchangeability or uniformity of the component parts of a product.

Mr. Whitney obtained a government contract to produce 10,000 muskets in a two-year period. In order to meet this schedule, it was necessary to produce nearly 14 muskets per day. At the close of the first year only a fraction of the number required was completed and Mr. Whitney was called on the carpet to explain. He journeyed to Washington, taking with him a box containing the parts for ten muskets. With these musket parts spread out on the table in piles of ten barrels, ten stocks, ten triggers, and so on, he illustrated, for the officials, the principles of interchangeability of parts. Because of exact duplication, or uniformity of the components, any one of the ten stocks fit with any one of the ten barrels, and so it was with all the parts of the muskets. So the assembly process no longer required a craftsman to painstakingly fit piece to piece, but could be accomplished by relatively unskilled workers.

These two principles, the application of extraneous energy to a productive mechanism (Watt's steam engine) and the standardization of component parts to achieve interchangeability, constitute the basis for our highly complex industrial giant which produced seven million automobiles in 1955, as well as more of nearly everything else than ever before in history.

A new and completely unique situation was created in North America when machines were put to work turning out consumer goods at an ever-accelerating rate. The need to stimulate consumption —to effectuate the distribution of the machine-made bonanza—made itself felt very soon and gave birth to an effective sales inducer—the advertising game.

Many bird watcher economists have viewed with alarm the growth of the advertising business. Some insisted that it was a waste and served no purpose. Most agree, however, that the opportunity to, and necessity for, persuading people to buy something can only happen under conditions of abundance where the emphasis has shifted from production to consumption.

David Potter, of Yale University, points out in his book 'People of Plenty' that advertising is an 'institution of abundance' and performs an indispensible function in our Price System economy. 'It is,' he says, 'the force that creates demand for the flood of new products which are constantly appearing.' He observes that 'our productive capacity can supply new kinds of goods faster than society, in the mass, can learn to crave these goods or to regard them as necessities.' He goes on to say that 'if this new capacity is to be used, the imperative must fall on consumption and the society must be adjusted to a new set of drives in which consumption is paramount.' Mr. Potter conveniently neglects to mention a condition wherein the society might be well supplied with appropriate drives to consume, however induced, but inconveniently lacking purchasing power.

Mr. Potter is not alone in his observations. The dominant role of the consumer in a society of technologically-induced abundance was set forth many years ago by Technocracy Inc., and now is receiving increasing attention from many quarters.

Evolution of the Consumer

Sociologist David Reisman has traced the changes in the national character of the American people through the years which saw the shift from production to consumption in his book 'The Lonely Crowd.' He describes the first period as one 'when man had to wrest a living from his environment, where emphasis was on human toil.' Next came the industrialization period when machines took over jobs previously done by people. The work day was shortened and still the productive capacity increased. Then came the era of the consumer and, according to Mr. Reisman, 'the "consumer trainee" has much to learn about the "art of consumership".' A new set of phrases has been coined by Mr. Reisman to describe this situation. He verbalizes at great length about the shift of emphasis from the role of the producer in an economy of scarcity to that of the consumer in a society of abundance.

While his observations are confined to the sociological aspect of our problem and ignore the physical considerations, Mr. Reisman can be credited with trying to enlighten the public with the fact that they are in the midst of social change—and that there's no turning back!

The automobile industry, the first to employ mass production techniques, was the first to require the services of the advertising agency to help badger the public into the purchase of its product. Automobile manufacturers learned early, by 1915, that more attention must be given to the consumer, to creating desire on his part to buy a new car regularly; whether or not it was functionally necessary or financially feasible for him to do so. That year, the automobile industry had become the nation's number one advertiser.

Selling Mass Production

Yes, the automobile industry was the first to feel the effects of and respond to the problem created by a productive capacity which outstripped demand, or the consumer ability and incentive to purchase its product.

Ford, perhaps the father of mass production, put America on wheels in a uniformly drab black car, the Model T. He produced and marketed fifteen million of these during the eighteen years prior to 1927. Applied technology and refined production methods permitted price cuts from $780 in 1910 to $290 in 1923.

Significantly, Ford's loss of prominence in the auto production field at that time is attributed to a lack of interest, on his part, in the desires of the consumer, who was learning to demand frills and style changes rather than the economical transportation represented in the drab Model T.

During this period, price was relegated to a secondary position in the sales picture, and the factor of style as a means of eliciting consumer interest and action was developed. General Motors was the first to establish a consumer research section, a listening post, so to speak, to find out what the prospective purchasers wanted in an automobile. When it was discovered that extra knickknacks and frequent style and color changes whetted the appetite of the consumer, this secret was, and still is, exploited to its fullest.

Ford finally realized, in the face of diminishing demand for his car, that an automobile had to offer more than economical transportation in order to sell—and then the race was on. General Motors initiated the annual style change and established the principle of planned obsolescence to which all 'successful manufacturers' tenaciously adhere. Advertising was, and is, primarily responsible for enforcing the style and obsolescence factor—for creating willingness to get rid of a perfectly good, still usable item in favor of its newer, more colorful, and usually more expensive, counterpart.

The automobile industry never forgot this lesson and many other manufacturers have profited by it. The emphasis is placed permanently on marketing and distribution with productive capacity taken for granted and no longer a consideration. The siamese twins, mass-production and mass-consumption, are permanently welded together, each as responsible as the other for maintaining the economy and standard of living at a relatively stable level.

Advertising, augmented by new and different models each year, and implemented with installment plan buying, influenced the consumer and served the purpose reasonably well until the depression of the 1930's left very little market to advertise to. Personal disposable income dropped from the pre-depression level of $82 billion to a meager $45 billion in 1933. Recognition of the greatly reduced market is reflected in the drop in advertising expenditures from 4.1% of disposable income, or nearly 3½ billion dollars in 1929, to a skimpy 2.8% of the greatly reduced disposable income of 1933; a mere 1¼ billion dollars.

Capacity to Tolerate

Last year the desire to acquire a portion of the vast array of new products was sharpened by 3.5% of disposable income; 9 billion dollars did the job. One source predicts that the ever-increasing necessity to keep the American public interested and buying will cost a whopping $15 billion annually within a decade, provided the American public continues to demonstrate the capacity for tolerating this situation.

Yes, last year each family residing in the United States paid $191 as its share of the cost for the privilege of being subjected to incessant attempts to gain its attention and shatter its privacy.

If your income is within the average bracket, you worked about 10 days last year to pay the tab for advertising—the cost of being beset on every hand with the promises of long life, wealth, security, increased energy, sweet-smelling popularity, lightened household chores, comfort-supreme—in short, the moon with a fence around it, if you'll only buy so and so product.

The value of advertising as a sales inducer is recognized by our newest retailing entity—the suburban shopping center. Its developers realize that if the center is to be 'successful,' if it is going to capture a portion of the market from downtown, sufficient to survive, heavy emphasis must be placed on promotion. So, they give away everything from a 'free chance on a turkey' to a trip for two to 'sunny California' and all heavily publicized through advertising.

Control by Advertisers

We might mention in passing that the advertising racket has a few side effects too. The means of communication, the television, radio, newspapers and magazines are virtually controlled by the prime advertisers. Your 'free press' concept goes out the window when the advertiser comes in the back door. Do you think you have a chance to get factual information of any situation when 'business' interests are apt to be detrimentally affected by the disclosure of the facts of any matter?

Secondly, strongly inherent in the need to control consumer spending through advertising is the communicating of the necessity to conform and want the same things that everyone else wants, or more if you can possibly swing it. The mass movement to suburbia, the acquisition of a television set or a pink refrigerator, or perhaps the election of a public official, are but a few of the little projects lucrative to the instigators whose desirability has been greatly enhanced to you, the consumer, through advertising. This tendency toward conformity, once established, isn't confined to spending habits but permeates most other phases, forcing the individual into an escape-proof mold—and makes him much easier to handle.

Abundance Is On the Way

The sociologists can write volumes about the effect of abundance on human behavior; the economists can rationalize the present system until doomsday; and the facts remain unaltered. America has embarked on a one-way journey on a fast express and there are no stopping-off places and no changes of direction.

Sales inducers such as installment buying and advertising and government pump priming have bought only temporary reprieve from the inevitable failure of our obsolete distributive mechanism which was designed for a scarcity economy, and is now confronted with an abundance.

When Eli Whitney met his production schedule for 10,000 muskets and James Watt's steam engine pumped water from the English mines, the stage was set for a new and different era in human history. Applied technology has resulted in the realization of a productive capacity completely without parallel or precedent. Every day, science and engineering finds new ways to increase our productive capacity, using fewer and fewer manhours to do the job.

Technology's offspring, the siamese twins, mass-production and mass-consumption, reappear on every hand, out of balance to threaten our continued operation. Increasing imbalance is the only result possible until the same scientific methods which have been applied to our productive mechanism are extended to our distributive mechanism.

Technocracy alone has a program for the scientific distribution of abundance to all citizens of the North American Continent, a program which proposes to accord to all law abiding citizens of this Continent an equality of consumption never before dreamed of by any people or undertaken by any system of government. Investigate now — while America still has the choice!

—Dorris Biderbost, 12247-3

MY TWO CENTS WORTH

All this talk of war kinda frightens me on account of the hydrogen bomb and things like that. Of course, business ain't as good as it has been, especially for the little fellow, and wars are good for business—anyway, they always have been. I'll have to admit we all want prosperity, but I'm beginning to think the things that are good for business ain't always the best things for the rest of us like they try to tell us.

Wars might be all right if they make people happy and prosperous like World Wars I and II did for America; but, now, I think it would be a lot better not to have prosperity than to have the world ruined with hydrogen bombs. In fact, I don't think a big war would be good for prosperity any more. Too many of the customers would get vaporized and business ain't any good without customers.

I was talking to Uncle Zeke, and he thinks all this hollering about fighting the Russians over the Hungarians is a lot of malarky. He thinks that's only an excuse, on account of we haven't ever been sentimental about other people getting killed or sold down the river, especially if they were Jews, Chinamen, Hindus, or Formosans. We ain't even mad about the French killing the Arabs in Africa. The Hungarians are mostly Catholic and maybe that makes a difference; but I think it is mainly an excuse to hate the Russians, and we would rather hate the Russians than anybody else.

From the pictures in Life Magazine and other places, it looks to me like it was the Catholics in Hungary who were doing all the killing and beating; so, I don't see why we should be so sorry for them if they have to run away to escape justice. Anyway, it seems like an awfully poor excuse to go to war, I mean over people like that. Also, I don't like the idea of shipping all those Catholics over here to take jobs away from our own people. Even in my town, there are a lot of unemployed Americans, but the priest is going around trying to get people to give jobs to Hungarians.

—Ima Moron

LINCOLN'S GETTYSBURG ADDRESS UNFROTHED

(Lincoln's Gettysburg Address is now remembered because, aside from its brevity, the message was artfully frothed with vague and undefinable phrases which obscured its basic meaning while implying heroic valor and piety. Stripped of its froth and flowery rhetoric, the speech would read somewhat as follows.)

'Eighty-seven years ago, the American people established on this Continent a new nation. Now we are engaged in a great civil war, testing whether that nation shall continue as one nation or be divided into two nations. We are met on a great battlefield of that war. We have come to set aside a portion of that field as a burying ground for the soldiers who were slaughtered here. This is an expedient sanitary action.

'Many of the men who struggled here have lost their lives. The people of the world will little note nor long remember what we say here, but they will never forget the battle which these men waged here. It is for us, the living, to here resolve to continue this war until the people of the Confederate States have been defeated—that the men of our side who died here shall not have died in vain—that this nation shall continue as one nation and not be divided into two nations.'

WHAT IS INTELLIGENCE ?

The intellect of the individual is his general capacity to learn. Technocracy points out that the human animal is differentiated from other forms of animal life by reason of being able to absorb more conditioning more quickly than lower animal life, and being able to sustain the conditioning longer.

INDIVIDUALS often are heard to say, 'He, or she, is intelligent.' Chances are that persons who ascribe intelligence to another usually are referring to some accomplishment of that person. An accomplishment of an individual, as a musician, a writer or in other ways is a reflection of one or more relatively strong aptitudes with which one is endowed through heredity. Exposure to proper training may produce a high degree of proficiency along some given line of endeavor if an individual possesses a strong enough aptitude for it, and if he possesses the desire to learn.

An aptitude is a capacity. Visualize an aptitude as a water glass of a certain size. The size does not change appreciably during one's lifetime, so far as is known. Each individual has a number of different aptitudes which may vary considerably in their respective capacities.

A number of aptitudes have been isolated and are now being measured, such as ability to reason arithmetically, to visualize and identify solid objects from 'blueprint' layouts (spatial relationships), and to use and understand words. While there are other aptitudes that are being measured, these foregoing are considered to be of the 'intelligence group,' reflecting the intellect of the individual.

The intellect of the individual is his general capacity to learn. Technocracy points out that the human animal is differentiated from other forms of animal life by reason of being able to absorb more conditioning more quickly than lower animal life, and by being able to sustain the conditioning longer. Generally speaking, conditioning is a learning process.

Just as certain strong aptitudes and accomplishment do not automatically make an individual intelligent, neither does high comparative intellect on a percentile scale make one intelligent. One may possess the capacity to learn but may be devoid of initiative to employ the capacity. For all social purposes, such individuals are in the same class as morons. The same applies to an individual who makes only specialized use of his capacity because of exposure to various kinds of conditioning that inhibit function of his capacity, e.g., ecclesiastic or other philosophic indoctrination.

Intelligence, in its broadest definition, is the ability to assimilate knowledge, to correlate information taken in and then to apply it to the life situation. If any step is missing in this process, the individual is, by the definition, lacking in intelligence, and may be a moron or an imbecile.

The world over, the overwhelming majority of human beings are social morons, moderately feebleminded, because either they cannot or do not take into consideration the entire picture of social development. To be considered intelligent one must be equipped and willing to consider the many facets of social development in the broadest sense of the word, the deeper the effective penetration into the facets, the more intelligent he is. Technocracy estimates that only three per cent of the population possesses the potential to be intelligent. It has been Technocracy's experience that many of that percentage appear not to have the initiative to use their latent intellect.

Commonly, we attribute the word 'intelligent' to one who holds a degree from institutions of higher learning. The more degrees, the more 'intelligent' he is. People are conditioned to hold in awe the university professor and other learned people, such as civil court judges. Yet, it is entirely possible that the individuals you know in these categories are goldplated social morons; it is even probable.

It is not unusual for an individual with a third grade education, or no formal education at all, to demonstrate more native intelligence about current problems than the well educated so-called intellectual. As a case in point, the learned Arnold Toynbee, noted British historian who has made some contribution to human knowledge, could only conclude, after an exhaustive study of human affairs for decades, that what the human race needs in this age of technology is a new religion!

Knowledge, the bits of information that we know and use to do the things that are required to keep this or any other civilization alive, is bound to create social adjustment problems. The total effect of the total application of knowledge is always to be considered. This is where many of the individuals to whom we attribute intelligence fall down. In a specialized sense, people may be smart or quick to learn, and even to excel. But if they cannot or do not go beyond specialized accomplishment to consider ramifications of their work and related fields of activity, how can they be considered intelligent?

The so-called intellectual individual often is so mentally cluttered up with erroneous conceptions that he never gets around to doing anything about the most obvious and clear-cut problems. On the other hand, an individual without much formal education may not be confused in his thinking by exposure to the multitude of errors and downright lies in textbooks and can, if he has the native capacity, go right to the core of a social problem such as exists here in North America. This is not to say that individuals with formal education are handicapped in understanding social problems. But much unlearning is required along with the learning process among the miseducated, if they have taken their formal education seriously.

Statesmen

Another common misapplication of the term 'intelligence' is to persons who get their pictures in the paper and who enjoy acclaim, nationally and internationally. Reference is made to 'statesmen' and heads of state. They do a lot of talking and they have social status, so they must be 'intelligent,' we think. Yet the world mess provides staggering evidence to the contrary. Why should anyone expect intelligent thought from statesmen like John Foster Dulles, who has shown unbelievable incompetence over a period of several years at the forefront of American statesmanship, and decades of it behind the scenes?

Economists are another crew of morons who have the attention of many, especially in the business world, where morons repose in great numbers. These modern 'witchdoctors' have Price System license to utter the most fantastic nonsense about the North American economy of any group. As an example, it is rather common for them to assert that babies make prosperity, because babies require diapers, bottles, highchairs, etc., which in turn creates business prosperity. Conveniently, they overlook the fact that China and India and other baby-ridden countries in the world do not enjoy much prosperity—only poverty, which is not very enjoyable.

Great importance is attached to the criterion of monetary success as proof of intelligence. If an individual is monetarily wealthy, he must be intelligent, it is commonly thought. You know the old saying, 'If you're so smart, why aren't you rich?' We confuse chiseling somebody out of their purchasing power with intelligence. For support of this, look at the businessmen around you. Many of them are so damned dumb that if their business operations get beyond the one-horse stage, they have to call in management consultants to show them how to run their businesses. Businessmen are more inclined to acquisitiveness than intelligence. Collectively, they are the scourge of this civilization. Individually, they rarely display any intelligence.

It is a matter of historic fact that only a handful of men have been responsible for social change, this change from the old agrarian type culture to North America's present state of industrialization. Most of the change has been in the past fifty-five years, mushrooming from basic research which was done decades and hundreds of years before. A negligible amount of physical progress has come from individuals who have achieved social status. Such individuals achieve their status by being what other people want them to be. To present new ideas is unpopular, especially if the ideas run contrary to the status quo. It follows that little or nothing can be expected from the socially prominent people of today. If they have intellect, it is more than likely that they are too busy protecting their status to be intelligent.

Analyzing Social Change

Just as basic work in science has been done by only a few individuals, so it has been that understanding of its social effects came from a relatively few individuals. Long before Technocracy became known to the general public, men of science were analyzing the broad social meaning of technological progress in North America. Their work required more genuine intelligence than any effort that preceeded theirs, because they were considering the long-range effects of physical progress.

These were some of the questions that they asked of themselves: What is the rate at which North America is using irreplaceable resources? Where were the resources coming from to sustain this technological progress a few decades hence? With the technological revolution expected to accelerate as more non-human energy is applied, what would the future hold for a civilization which operated with the age-old concept of exchanging man-hours for goods and services? Since engineering and science is responsible for the technological revolution, is it not a problem for men in these fields to solve?

For years the Technical Alliance, as this research group was called, labored almost unknown to produce answers to vital questions, as above. Outside of this group, few knew or cared about impending problems. It was the Roaring Twenties and everyone was having a good time, that is, those who could afford it.

The high living and debt generated prosperity of the Twenties (similar to the present time) produced an economic tailspin and social debacle that all but destroyed the North American Price System after 1930. In 1932 Technocracy hit the front page nationwide. People by the millions were in serious trouble, and they wanted answers to their problems. So Technocracy took every possible opportunity to give the public answers which had been worked out by its technical staff. But they were answers to the collective problems of 200,000,000 people, not answers for individual problems. Technocracy's Design called for the reconstruction of the entire physical plant of North America, from housing to hydrology, not to provide relief.

Technocracy had ascertained that North America had moved into a period of development that was entirely new in recorded history, directly traceable to the wide application of technology. Ancient ideas about government and economics obviously no longer applied in North America. This Continent was wallowing in technologically produced abundance. Human toil, the source of 'virtue' for the human animal, was disappearing as machines took over more of the work load. The manufacturer was discovering that he could produce more than he could unload on the merchant; and the merchant found himself stuck with more things than he could sell. Price was about to be doomed to disappear by reason of abundance. The very tenets of the Price System, rooted in scarcity, were being hacked away by technology, regardless of what anyone thought about it.

Another determination of the Technical Alliance was that as more technology was applied, the resources of the Continent were being used at an ever-faster rate, portending a day when some of the most vital ones would be gone forever, if conservation steps were not taken.

A drastic change in the mode of social operation was indicated here in North America. It could come by popular demand for more of what technology could produce, without price tags; or it would come as a result of the exhaustion of readily accessible resources which are indispensable to the operation of the industrial machine, forcing a change of social operations. In one of the two ways, social change and a new social order was bound to come to North America. The Continent was caught in the grip of a physical situation from which there was no release, but which could be kept from crushing the civilization if proper steps were taken to adjust the mode of social operations to the nature of the physical operations.

Did the answer lie in a change of politics? It did not: the physical problem was beyond the understanding of politicians. It was an engineering problem, from start to finish. It was a matter of governing things, not people. Whereupon Technocracy became the name for the new Design of social operations in North America, constructed from the nature of the problem.

Technocracy is a vast concept, embracing all socially significant factors of physical science—its application to industrial activity and social affairs. The Body of Thought of Technocracy carries on through an introduction to science, study of some basic science, its application through engineering which produced our modern industrial growth, the effects of technology on the Price System, and a study of human behavior. An individual thus is fitted with a basic framework of factual knowledge to which he can add by class and individual study. A social perspective is in this manner developed which is unobtainable anywhere except through Technocracy. The person who assimilates the basis of Technocracy is more capable of entertaining and understanding the Design of Technocracy, which supplies the answers to the many problems that are growing increasingly critical under the Price System.

Work of the Technical Alliance

One can see that a Technocrat has available to him a unique body of information, and that it is possible for a Technocrat to be far better qualified to understand and discuss problems of this civilization than individuals who might have spent their entire lives studying them. The Technocrat has the benefit of the perspective of the combined efforts of hundreds of researchers and other highly trained personnel whose efforts have covered a span of thirty-eight years. No matter how intense the effort, one individual could not hope to duplicate the work of the Technical Alliance; and, in all probability, it is doubtful if any number of people could retrace the steps of the Technical Alliance and come up with the answers to this dilemma of North America at this late date, before the problems of this civilization snuffed it out.

The extensive and time-consuming job of getting together the whole problem of North America, though done years ago, still requires supplementary research to keep data current. And it isn't enough for a few individuals to know what is happening on the Continent. So Technocracy became public information more than twenty-three years ago, its central purpose being to communicate its knowledge to all who could understand to prepare them for the great and sweeping social change which is now taking place.

Some individuals have objected to Technocracy because it is tough and blunt in its manner of presenting information. They have said that if Technocracy were 'nicer' about it, and painted more utopian pictures, more people would participate in the activities of the Organization. However, the individual with the type of intellect required to understand Technocracy will appreciate the directness of Technocracy. He will perceive that Technocracy Inc. is a vehicle for its Body of Thought and that he is the motive power, along with other Members, to get information to the public in a common fight to preserve this civilization. What difference does it make what people think about the information? The main thing is to give them what information they can and will absorb. There is no room for the 'pantywaist' mentality in Technocracy Inc. It's a tough Organization to belong to because to function in it demands self-discipline, with every day a test of performance.

Not many years ago crowds jammed public meetings to hear Technocracy speakers. That was when they were in trouble. That time is coming again. And again Technocracy will give the public a chance to act on behalf of itself and this Continent, perhaps the last chance.

In the meantime the present Membership of Technocracy carries on with its program, ceaselessly looking for and adding to the Organization that peculiar type of mentality which reflects upon the social scene, sees the stupidity of it all, and is motivated by the inborn initiative to come to grips with the problem of social change in North America. He's the guy who isn't looking for someone else to carry his burden, and who has grown to mistrust those who profess to be able to do so. He does not look to any Price System stooge for leadership. He is an intelligent individual and deserves more admiration than he will ever get from his contemporaries in the Price System. He is born to be a Technocrat.

—Harry Briggs, 12247-1

BANKERS VERSUS CREDIT UNIONS

The Wall Street Journal of December 3 carried a full-page advertisement by the Bankers Committee for Tax Equality, which roundly condemned Credit Unions on the grounds that they are unfair to private banks. It appears that the Credit Unions are getting more and more of the personal loan business, because of their relatively lower interest rates and the ease with which loans may be obtained by members. Further than that, they have very little operating expense; and they are tax free, being in the nature of non-profit cooperatives.

Since the Credit Unions generally are set up as mutual cooperatives to ease the burden of living under the Price System during its last days rather than as predatory enterprises to enhance the ostentation and wealth of the Bankers, the overhead cost and drag-down is only a fraction of that accompanying private banking.

There is nothing that makes the chiselers squirm more and howl louder than the sight of someone operating a low-cost, cut-rate, competitive enterprise under their noses. The Bankers are squealing for government protection for their racket in the form of taxation on Credit Unions; and they ask for it in the name of Western defense, yet. But they give no hint that the banks of America have been on relief since 1933, that they are being supported by government hand-outs and other considerations on top of what they can gyp from the public.

We are not concerned with the relative morality, legality, or solvency of Credit Unions versus Private Banks. They are both Price System institutions. Neither has the final answer to the social problem of this Continent. However, we are a bit inclined to root for the Bankers. They are more likely to run the Price System into the ground faster than the Credit Unions. The latter, by easing slightly the burdens of the Price System, tend to prolong tolerance for that System; and the longer the Price System is kept alive, the worse and more prolonged will become the plight of all North Americans. A bed of thorns is sometimes more conducive to initiative for advancement than a bed of goose-feathers.

—Techno Critic

Have You Observed?

... **Everything from 'soup to nuts'** is being taken out of payroll checks these days, even contributions to the Charity Racket. One company now has arranged for Charity to clip its employees through payroll deductions for $150,000 per year in this 'painless' way. Some of the rackets are complaining that this method makes more difficult additional collections at the homes of the workers who contribute in this manner!

... **While the Charity Racketeers** are hard at work devising ways and means of extracting the last fifty-cent piece (or dime, if that's all you have) from your hide, Uncle Sammy squanders every coin that can be scraped together (of your money) to subsidize every worthless and generally disreputable 'ally' that can be found on the globe. Ask your political representatives for something that you may need desperately, say medical care or money to make past due time payments on gadgets that you are trying to buy, and see what kind of response that you get.

... **An increasing number** of individuals are authorizing creditors to levy bank drafts on their accounts for payment of bills. The report is that bankers are strenuously opposed to this gimmick because they say that their customers won't be able to determine the status of their accounts. We would like to add that this situation is not unique: most people don't know what is going on in any other respect either.

... **To get a clearer idea** of just how far people can be pushed toward outright starvation without rebelling, the Social Security Department reported recently that the average social security payment during 1955 was $61.37 per month, which was 20 per cent higher than in 1954, though government figures say that one must have at least $275 per month to live decently. To let people starve to death outright would not be socially acceptable. So the Price System arranges it for them to starve by degrees. It's more 'humane' this way. On a Continent such as North America, Technocracy declares that this social condition, in this age of abundance, is an outrage, and would be permitted only by people suffering from dementia—the dementia of 'democracy.'

... **Not only are people** subjected to the bludgeoning of high pressure advertising by every conceivable means available, but they pay for it. The cost of advertising, running at nine billions per year, is tacked on to the cost of goods and services purchased. Per worker, this is a cost of $191.00 a year, or means that he must work eleven days per year to support the plague of advertisers who constantly assault him. With Technocracy, engineering can and will provide the best of everything in goods and services simply because, as a government of service, that will be the primary objective. Applied skill, not ads, make for serviceability.

... **It was reported** that something over 62 million people voted last November in the national elections. What wasn't emphasized is that there were more than 104 million people of voting age, which indicates that 42 million didn't bother to make the mark of the ignorant. Why? Why should they? All that can be expected is more of the same from both of the major parties, and in other brands of politics, who would touch them with a ten-foot pole, except the 'lunatic fringe'? Technocracy enjoys the position of having no competition. If you are a dissenter, study and join Technocracy.

—12247-1

THE COMPUTER PAYS ITS RENT

WILMINGTON, Del.—An aircraft parts manufacturer reported here recently that a newly acquired electronic computer had saved his company the cost of its annual rental in a month's time and equipped the company for moving into production of more complicated items.

Charles W. Wendt, president of All American Engineering Co., in reporting on his firm's experiences in using a small "robot brain," known as Burroughs "E 101," said, "We hit the jackpot with the very first problem we ran on the computer."

He explained: "We were all set to produce a new kind of arresting gear for jet planes when the computer showed us that, instead of bringing the plane to a full stop, the gear's stopping power would have been exhausted while the jet was still doing thirty miles an hour."

—New York Herald Tribune

TECHNOCRACY IN THE FIELD

The Members of Technocracy apply their efforts in various ways to bring to the attention of all North Americans the significance of the present social trends and the need for a technological solution to the problems which arise out of them. They realize that only through their activities and efforts is the public made aware of Technocracy's Program.

(Techphoto by McGraw)

Operation Spokane

MORE THAN a few heads were turned when Western Washington Members arrived with ten 14-foot car-top signs to assist the Spokane unit in publicizing a Public Lecture, the first of Tour No. 55, by Harry Briggs, the weekend of October 13th and 14th.

The engineering of this affair was undertaken by the Western Washington Area Gray Fleet. The planning—design, construction and transportation of the signs to the site of the Operation—was carried out by this group, with assistance from Members in the Area.

The Public Meeting, featuring the Tour Talk, 'The Race We Can't Afford To Lose,' was highly successful in terms of non-Member attendance and signup; and Tour No. 55 was launched with a bang-up beginning.

Reactions to the tremendous car-top signs were mixed; one fellow removed his hat and placed it over his bosom, with bowed head, but you can be sure that everyone provided with this visual contact knows that Technocracy is 'alive' in Spokane.

On Sunday, following the car-top Symbolization and Public Meeting, tired Technocrats convened for a Membership Meeting. Highlight of this Meeting was a telephone interview with the Director-in-Chief, Howard Scott. The Chief discussed several items prominent in the news.

When it came to closing time and an attempt was made to establish the responsibility for the effective conduct of OPERATION SPOKANE, everyone called on for comment mentioned the names of so many others that it became obvious that significant contributions were made by Members too numerous to mention.

Everyone concerned with OPERATION SPOKANE can rest assured that Spokane is still reeling from the effects and that quite a few residents know that TECHNOCRACY is active in their midst!

—From WOI Area News

TOUR NUMBER 55

Following the public meeting and other activities at Spokane, Tour No. 55 proceeded into British Columbia and Alberta, where public meetings were held at Trail, Kimberley, Calgary, Salmon Arm and Kelowna. Meeting reports indicated high interest in Technocracy's Program and an accrual of new Members to the Organization.

The tour then proceeded south to Portland, Oregon, where Briggs had been invited to speak at Linfield and Portland State Colleges. Several classes attended the meetings, and showed their interest by asking questions of the speaker beyond the specified time limits, and by taking some 300 pieces of Technocracy literature with them from the meetings.

As a climax to highly successful meetings at the schools in Oregon, the Portland Section staged a public meeting for a 'packed house' which also brought new Members into Technocracy.

(Techphoto by Carlson)

A scene taken at Operation Shake Split, sponsored by Section 1, Regional Division 12247, Everett, Washington at which Members of the Area recently tried their hands at splitting shakes to raise funds for the Organization.

CANADA'S UNPLANNED PROSPERITY CHALLENGED

Winnipeg—Canada's need for a planned economy is becoming more and more apparent every day, Premier T. C. Douglas of Saskatchewan told members of the Manitoba CCF. He said that owing to the inflationary trend since the war the purchasing power of the dollar had been reduced to 50 cents. This was particularly hard on people with fixed incomes. Continued uncontrolled economy could only lead to maldistribution of wealth, he declared.

Mr. Douglas said that no doubt opponents of the CCF would call attention to the fact that the country had increased its production since the war. With vast natural resources being tapped, it could not do otherwise, he said, but how much of that increased production had trickled down to the common people? It may have meant bigger wages for many, but there were hundreds of thousands of unorganized workers and white collar workers who were actually harder up than they were 10 years ago.

Business today was putting on an intense program to stimulate installment buying and many people were going to small loan companies. Big business, Mr. Douglas said, was never so well prepared to combat any alteration in the present system. By utilizing the best brains for publicity and advertising, it was able to sell political ideas and aspirations as easily as one could sell soap.

A planned economy, Mr. Douglas said, would involve a large measure of public ownership. In a publicly-owned enterprise it was not necessary to make a profit or to provide dividends for shareholders. Service would be given on the basis of social need. Under a planned economy there would be a great place for cooperative ownership and enterprise. Continuation of the present system of uncontrolled economy would eventually lead to economic dislocation with increased suffering for many.

(Comment: Since a planned social operation is recognized as a social need and benefit, why piddle around with socialism, a half-hearted compromise with the Price System? Let us have a bold new concept of social organization and planning—let us go all the way and have Technocracy!)

DEVELOPING TRENDS

CRIME SOARS

Major crimes in the U. S.—being committed at the rate of one every 12.2 seconds—jumped 14.4 per cent during the first six months of 1956 over the same period in 1955, FBI Director J. Edgar Hoover announced recently.

At that pace, such crimes may reach the staggering total of 2½ million by the end of the year, Hoover said.

—Labor

—More crime means more appropriations for law-enforcement agencies. Why kill the goose that lays the golden eggs?

'VANISHING SHORELINE'

The National Park Service recently completed a survey of the Atlantic and Gulf coasts, finding to its dismay that, of that 3700-mile stretch of shoreline, only 6.5 per cent remained available for public use. Of the publicly-owned beachlands, many were not developed or accessible, but they were at least potentially so. The rest of the coastland —93.5 per cent of all that extending from Canada to Mexico —was privately owned, most of it closed forever to the possibility of public use and enjoyment.

—Oregonian

THE 'FARM FAMILY'

WASHINGTON—An investigating panel of the House of Representatives warned that Congress and the Executive Branch must act decisively and promptly to save the "family farm." More than 600,000 of such farms have failed in the last four years, it reported.

Family farms constitute the backbone of "private enterprise" in agriculture, the panel emphasized, but they are being blotted out by an industrial-type invasion.

The combination of machinery, hired hands and massive projects are taking the initiative from family units, the group reported. The invasion not only is discouraging family units from starting private land enterprises, it said, but is also killing off those who have resorted to the soil on a small scale.

The investigating subcommittee is headed by Representative Clark W. Thompson, Democrat of Texas. It traveled more than 3,000 miles, visiting grass-root farms. It concluded that family farming had received a serious jolt from the tremendous competition of mass-farming by corporations.

It said it was convinced "that by the proportion the nation permits a lessening of the number of opportunities for venture into individual enterprises—for one to own his own farm or his business—then by an even larger measure will the free enterprise system be weakened."

"Free enterprise is the spirit of the frontier," it went on. "The frontier must be kept open for men to venture into and to achieve independence in individual and family enterprises . . .

"There is a deterioration of the economic structure of the family farm, due primarily to technological developments and a general weakening of the farm economy. (The) remedy will require action by the Federal Government, in close cooperation with farmers and their organizations, and by community leaders."

From now on, the panel held, the country's farm program must begin with the family farm. Major program benefits should be limited to the output level of the family-type farm, it stressed, and the rights of tenants, as well as those of land-owning farmers, must be protected.

It urged legislation to assure each family-size farm its share in agricultural production and prosperity resulting from farm output.

Gross production, rather than a concentration on specific crops, should be encouraged, the report stated. However, it emphasized, a close watch should be put on controls of possible depressing surpluses of certain crops.

—New York Times

—It is well to note that the Investigating Subcommittee had nothing to say about the irreversible physical trends taking place on the Continent and the anachronism of small farms for North America.

MAMMOTH MACHINE

ABERDEEN, Wash. — An electric "elephant," powerful enough to lift a truckload of logs as high as a three-story house, is the latest innovation of a large Pacific Northwest timber concern for handling tons of logs.

In use at Weyerhaeuser Timber Company's Grays Harbor mill, the "elephant" plucks a complete load of logs from a truck, rolls to a heap of logs already stacked and drops them on top.

The 30-foot machine then lumbers back, lifts the truck's trailer into the air and deposits it behind the cab, where it rides to the woods for another load of logs. The whole operation takes five minutes.

The machine's "mahout" controls his charge by pressing buttons on a control panel. A huge generator mounted behind the six-foot-high rear wheels powers electric motors which drive the machine.

Weyerhaeuser officials hope their "elephant" will have created a stockpile of more than a month's supply of logs, ready to be crushed into pulp, by January, 1957.

—United Press

DEALERS FINED FOR FREE MILK

TRENTON—Five milk dealers pleaded guilty and were fined a total of $1,000 for violations of regulations of the New Jersey Office of Milk Industry following informal hearings here, Floyd R. Hoffman, OMI director, announced recently.

George P. Markert of Sayreville was fined $600 for giving free milk and doorstep boxes to customers. Also for giving free milk, Panco Dairy Co., of West Paterson, was fined $100.

—Newark Evening News

—One of the rules of the game of the Price System is the rule to never give anything away—always charge all the traffic will bear—or dump the surplus where it cannot be used.

TRANQUILLIZERS

One of the most spectacular medical developments of recent years has been in the use of tranquillizing drugs for mental illness.

Brought into use about two years ago, the drugs now appear to be among the most widely used of medications, not only with psychiatrists but also with many other physicians prescribing them.

* * *

The American Psychiatric Association recently reported that almost one-third of all prescriptions written last year were for tranquillizers, implying that this is a greater use than is desirable.

* * *

Physicians agree that the "pills for the mind" are not "cures." They emphasize that the drugs only make other treatment easier or more effective, and that while they may remove symptoms temporarily they do not remove the causes of the mental condition.

The big question of whether the use of the drugs actually is reducing the number of mental patients remains without a specific answer.

—Seattle Times

—Staying tranquil, or even sane for that matter, in the Price System will soon require more than a doctor's prescription.

NEW ALUMINA PROCESS READY

NEW YORK—Anaconda Company announced it has developed a new process for extracting alumina, principal raw material for aluminum, from low grade domestic clays, and said it will build a $1,000,000 pilot plant at Anaconda, Montana, to test the process.

Alumina now comes from bauxite, a mineral mined to a large extent in the Carribean area and parts of the Far East.

Since three out of every four aluminum fabricators import their bauxite, the new process would free the country from dependence on foreign sources.

Previous efforts to use domestic clays had failed because the processes were too costly.

—Oregon Journal

TRUCK BODIES OF PLASTICS

Major manufacturers of truck bodies, particularly in the field of the smaller multi-stop delivery trucks, are turning increasingly to use of reinforced plastics as the principal structural material, Celanese Corp. of America reports.

Economies achieved by use of the material include higher ratios of payload to dead weight, lower maintenance and operating costs, favorable performance in accidents and improved insulation in movement of perishable foods, the company states.

Some half-dozen companies manufacturing plastic truck bodies of all types from three-wheel scooters for mail and other light deliveries to thirty-five-foot cargo trailers. Biggest volume, however, is in multi-stop units for such industries as dairies, bakeries and laundries.

—New York Herald Tribune

U. S. AUTOS 'MONSTROUS'

LONDON—"Monstrously large American cars are left in our streets for 24 hours a day," Lord Conesford told the British House of Lords. "They are utterly unsuited for our crowded roads and should be prohibited. A householder paying rent and taxes has some right to approach his own front door."

—Seattle Times

COIN MACHINES

Grand Union Company, East Paterson, N. J., thinks vending machines are an answer of the late-at-night shopper who just needs a loaf of bread or bottle of milk. The supermarket chain built eight machines into the front of its "store of tomorrow," opened recently in the Elmwood Shopping Center at East Paterson. On a 24-hour basis, customers right on the street can load coins into the machines for such items as bread, milk, eggs, margarine, frozen meats and fish, coffee, and tea. A change-making machine is part of the installation.

Chain officials see the vending machines as "an experiment." But if they prove successful, Grand Union may try them in other markets.

—Business Week

STOREKEEPERS OR CLERKS IS THEIR CHOICE

This may be the Atomic Age but the scientists who made it possible are no heroes to the nation's youth.

A sampling of 15,000 high school students in all parts of the country shows that the large majority would shun a scientific career. The atomic scientist ranks on the bottom of a list of 10 occupations.

The survey was made by the division of educational reference of Purdue University. The findings are published in a report of the attitudes of high school youth toward various professions and occupations.

The high school students, considered to be a good cross section of the 8,000,000 youths in secondary schools, were not impressed with the challenge of the atomic era.

These are the views held by the students:

Forty-five per cent believe their school background too poor to permit them to choose science as a career.

Thirty-five per cent believe it is necessary to be a genius to become a good scientist.

Thirty per cent believe you can't raise a normal family and be a scientist at the same time.

Twenty-eight per cent do not believe scientists have time to enjoy life.

Twenty-seven per cent think scientists are willing to sacrifice the welfare of others to further their own interests.

Twenty-five per cent think scientists as a group are more than a little bit odd.

Fourteen per cent think there is something evil about scientists.

Nine per cent believe you cannot be a scientist and be honest.

"These responses," the study points out, "not only indicate a lack of information about scientists and their work but negative attitudes in place of such information. The concept of scientists held by many of our high school youths would seem to be one which attributes an undesirable sort of brain to them."

In recent months much concern has been expressed about the increasing shortage of engineers, scientists, and technicians. Because of the great needs for trained personnel in these areas, an attempt has been made by educators and informed laymen to publicize the advantages to be found in scientific occupations.

—Los Angeles Times

—The Inquisition carried on by the McCarthyism of the past several years has made its mark. Who wants to be a scientist and be called subversive? Besides, there is more money in advertising and selling.

'THEY'

The citizens of this Continent are saturated and nearly overcome by the glittering array of installment plan luxuries, the pipe-dreams of the politicians, the theories and purportings of the frenzied economists, the clever confusions of the clergy, the need to conform and the pressures of everyday existence in an outmoded social order.

Rarely can one uncover the ability or inclination to discuss or consider problems of Continental magnitude. But on every hand, community-minded citizens are busily 'getting out the vote,' loudly supporting their views on the location of some public facility or the firing of a government employee. Rub against their biases and they'll react in some innocuous socially acceptable manner.

Social acceptance is the pay-off for conformity and, for most, the pattern is established early. The mold is ready and waiting for the kindergartner on his first day at school. From then on, until graduation into prolific comfortable conformity in suburbia, social forces join to produce a uniformly mediocre individual. Nowhere along the line is there a warm berth for the dissenter.

A shortcut to unpopularity in most any group is to suggest that the technologically induced problems confronting this civilization defy solution within a political framework. A carefully cultivated lack of propensity for reality has delegated the responsibility for action on all significant issues. Currently prevalent advice is to adjust, be pleasant and, above all, don't worry; 'THEY' will take care of everything.

Yes, the peoples of North America appear, for the most part, satisfied to rest their collective responsibility for the fate of this civilization in the mythical character 'THEY.' Discuss the problems of dwindling resources, declining purchasing power, increasing social disorder or any of the packet of symptoms demonstrated by our decayed system and most citizens will assure that 'THEY' must be working on the solutions to these problems; so there's no need for concern.

Repeated bungling on the part of 'THEY' doesn't shake the faith of the populace who display amazing ability to overlook the painfully obvious shortcomings of their savior. Few question the actions or motives of 'THEY,' no matter how inconsistent with public welfare; it isn't convenient, comfortable or socially acceptable to do so.

A prerequisite to the accomplishment of any job is the understanding of the circumstances under which one must work. The Technocrat's job, creating awareness of the nature and scope of the completely unique technologically induced situation on the North American Continent, must be accomplished despite politically and ecclesiastically-promoted apathy, fear and ignorance. These circumstances further accentuate the necessity for the continued effectiveness of Technocracy Inc.

America's collective social irresponsibility, which permits their reliance on the imaginary personage 'THEY,' makes mandatory the finding of an applicant to fill this position.

So far, Technocracy Inc. is the only Organization displaying sufficient understanding of America's unique position and the qualifications and desire to assume the job of 'THEY'; and to carry out this assignment 'THEY' need more of 'YOU'!

—From WOI Area News

Statement Required by the Act of August 24, 1912, As Amended by the Acts of March 3, 1933, and July 2, 1946 (Title 39, United States Code, Section 233) Showing the Ownership, Management, and Circulation of

The Northwest Technocrat, published quarterly at Seattle, Washington, for January, 1957.

1. The names and addresses of the publisher, editor, managing editor, and business managers are: Publisher: Section 3, R.D. 12247, Technocracy Inc., 2208 Eighth Avenue, Seattle 1, Washington. Editors: George Kellogg, Harry Briggs, and Ruth Berge, 2208 Eighth Avenue, Seattle 1, Washington. Business Manager: Rina Corcoran, 2208 Eighth Avenue, Seattle 1, Washington.

2. The owner is: Section 3, R.D. 12247, Technocracy Inc., 2208 Eighth Avenue, Seattle 1, Washington. No stockholders.

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Rina Corcoran, Business Manager

Sworn to and subscribed before me this 19th day of October, 1956.

Wm. C. H. Lewis, Jr., Notary Public
My Commission expires Sept. 19, 1959

TECHNOCRACY

North America's Only Social Dynamic

WHAT?

Technocracy is the only North American social movement with a North American program which has become widespread on this Continent. It has no affiliation with any other organization, group or association either in America ro elsewhere. The basic unit of Technocracy is the chartered Section consisting of a minimum of 50 members and running up to several hundred. It is not a commercial organization or a political party; it has no financial subsidy or endowments and has no debts. Technocracy is supported entirely by the dues and donations of its own members. The widespread membership activities of Technocracy are performed voluntarily; no royalties, commissions or bonuses are paid, and only a small full-time staff receives subsistence allowances. The annual dues are $9.00 which are paid by the member to his local Section. Members wear the chromium and vermilion insignia of Technocracy — the Monad, an ancient generic symbol signifying balance.

WHEN?

Technocracy originated in the winter of 1918-19 when Howard Scott formed a group of scientists, engineers and economists that became known in 1920 as the Technical Alliance—a research organization. In 1933 it was incorporated under the laws of the State of New York as a non-profit, non-political, non-sectarian membership organization. In 1934 Howard Scott, Director-in-Chief, made his first Continental lecture tour which laid the foundation of the present Continent-wide membership organization. Since 1934 Technocracy has grown steadily without any spectacular spurts, revivals, collapses, or rebirths. This is in spite of the fact that the press has generally 'held the lid' on Technocracy, until early in 1942 when it made the tremendous 'discovery' that Technocracy had been reborn suddenly full-fledged with all its members, headquarters, etc., in full swing!

WHERE?

There are units and members of Technocracy in almost every province in Canada, and in addition there are members in Alaska, Hawaii, Panama, Puerto Rico and in numerous other places with the Armed Forces. Members of Technocracy are glad to travel many miles to discuss Technocracy's Program with any interested people and Continental Headquarters will be pleased to inform anyone of the nearest Technocracy unit.

WHO?

Technocracy was built in America by Americans. It is composed of American citizens of all walks of life. Technocracy's membership is a composite of all the occupations, economic levels, races and religions which make up this Continent. Membership is open only to American citizens. Aliens and politicians are not eligible. (By politicians is meant those holding elective office or active office in any political party.) Doctor, lawyer, storekeeper, farmer, mechanic, teacher, preacher or housewife—so long as you are a patriotic American—you are welcome in Technocracy.

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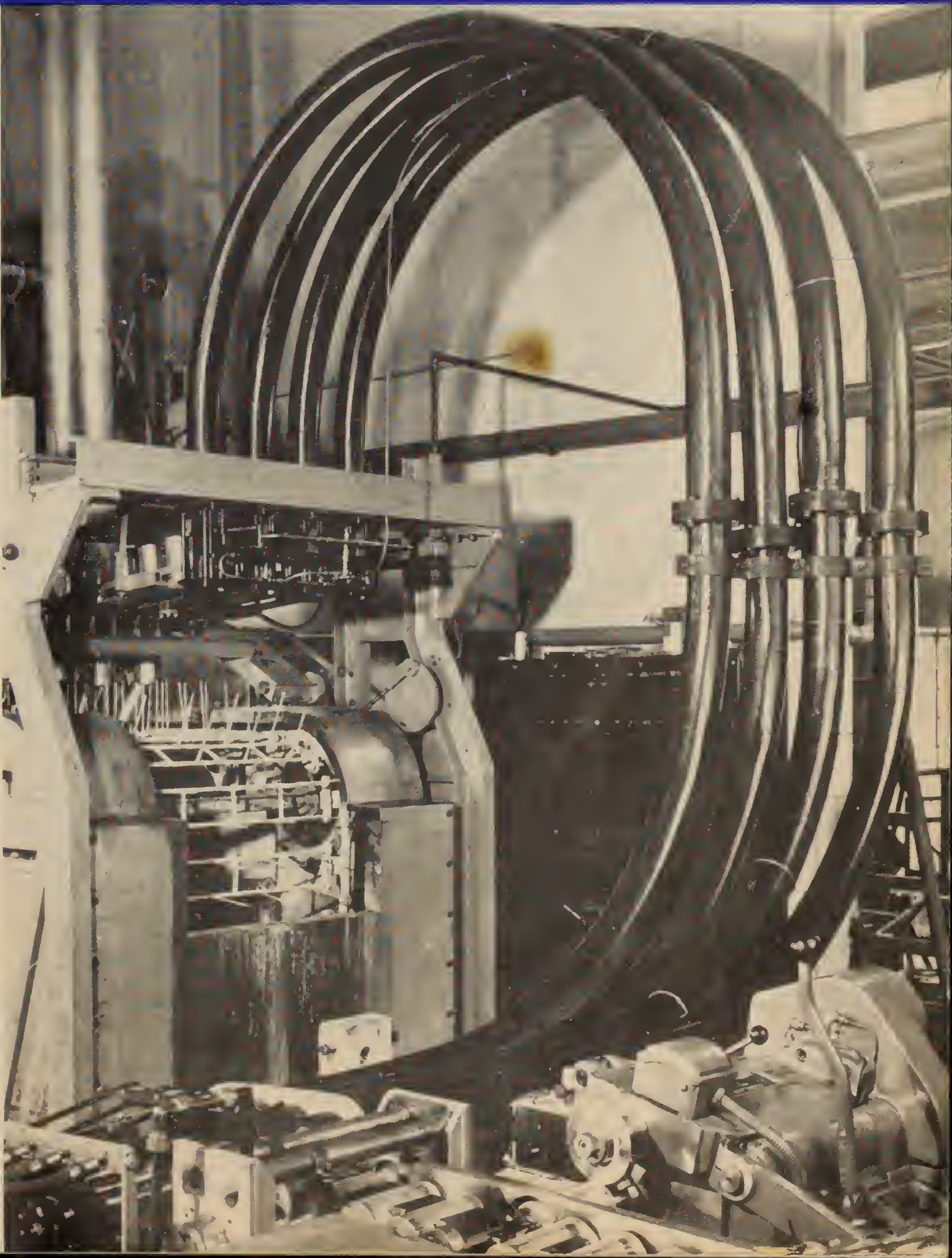
Abundance or Disaster?

North Americans soon must make a fateful decision, between Abundance and Disaster. This decision must be made without strife, for widespread violence on this Continent will lead only to chaos. Abundance without debt, taxes, or price is here for the taking. It waits only for a majority decision to become a reality.

THE NORTHWEST

Technocrat

JULY '57



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No. 188 (Vol. XXI)

25¢

Sec. 3, R.D. 12247
TECHNOCRACY INC.
Seattle, Wash.

The Grim Joke of Civil Defense

SOMETHING has to become unusually ridiculous before politicians finally see the futility of it, if they do then. Political criticism has befallen the Civil Defense set-up in the U. S., after other countries long ago discarded similar programs as utterly useless and even dangerous in planning civilian defense against disasters.

After spending $300,000,000 since the inception of the Civil Defense Administration in the U. S., Val Peterson and his organization have failed to produce a defense program, or even any plan for one. The phoney economy craze of certain politicos caught up with Peterson's outfit and whacked the proposed budget by more than two-thirds. The report states that there is 'dissatisfaction' with the whole program in this age of rapid scientific change.

Peterson still is talking 'mass evacuation' though scientists and engineers have shown this to be physically impracticable for more densely populated areas; and apparently he disregards the danger of atomic fallout to those who might escape the cities in the event of nuclear war. Would you expect anything but a garbled mess, as is the case with Civil Defense, from the type of leadership a politician accords?

To let you see what a scientist says about Civil Defense, we quote an article which appeared recently in the Everett [Washington] Herald.

'An Atomic Energy Commission consultant says this nation's civilian defense system is "dead on its feet."

' "The pussyfooting around with this problem has gone quite far enough," Dr. Albert W. Bellamy told civil defense representatives and educators. He is a UCLA professor of biophysics and an expert on atomic medicine.

' "Either the program should be implemented in a matter that gives some hope of maintaining national integrity or the entire matter dropped, totally and completely," he said.'

The Civil Defense Administration has a competitor for top honors in uselessness in the Ground Observer Corps, the voluntary civilian contingent of the U. S. Air Force. Here, simple, often sincere individuals are convinced of the importance of staring into the sky, day and night, to attempt to identify and report planes capable of moving faster than the speed of sound, and beyond the range of effective sight. It's a great publicity program for the Air Force, but an utter waste of time in terms of defense.

These programs are not without their sinister nature. They have contributed to hysteria and fear, and therefore have detracted from any intelligent view of the problem of survival in this age of atomic-hydrogen bombs. They actively promote war psychosis among the participants, and in the public, through ballyhoo on TV, radio and in the press. These useless programs are merely two means, of many being used, to maintain an atmosphere of war hysteria so that the Price System stooges of business and politics can continue to justify equally useless expenditures of billions of dollars to keep the Price System of the U. S. operating.

Technocracy would endorse any effective training of civilians for first aid or for other localized emergencies where stop-gap measures might be in order, provided that such a program would be an integral part of a Continental Defense System, such as proposed by Technocracy. By themselves, programs such as Civil Defense can only confuse and snarl steps to meet an emergency, and might even give license to some of our more unsavory social elements to assume policing powers, namely those who have a disposition for fascist control of the U. S.

Instead of squandering billions of dollars abroad, and multi-billions at home on 'defense' spending, this country should be pulling 'all the stops' in training our people to live in this age of technology. We require an engineered society to protect us, which will embrace the entire North American Continent. Our only chance for survival, under any circumstances in the future, lies with technological direction of an integrated scientific civilization—not with a puny 'minute man' anarchic scramble for protection, as conceived by politics.

—Editorial Board

JULY 1957

THE NORTHWEST
Technocrat

CONSUMER --- TAKE WARNING!

The Price System is a tyrannical economic system, devoted to fleecing the consumer and rewarding the chiseler.

MAN'S primary role in life is that of a consumer. His first interest and concern, therefore, is the acquisition of those things most needed to sustain life. This problem is, of course, older than mankind; but man has developed certain techniques in handling it which are to be found nowhere else in the animal world. One of these is the technique of exchange.

An exchange of goods and services became expedient and desirable at a very early stage in human organization. This was first achieved by direct barter. And, most likely, it was during this early stage of the exchange process that certain shrewd practices arose; that is, practices designed to get the most for the least. This has become known as 'the squeeze' or the 'swindle,' but it is generally referred to [euphemistically] as 'bargaining.'

The introduction of a medium of exchange provided a further facility for exchanging things, but it also permitted a wider range of shrewd practices to evolve out of the economic process. It was natural and inevitable that, in time, certain individuals should concentrate on the business of 'handling' the goods for both buyers and sellers and hold out a little on both. These are now known as merchants.

The merchant did provide a certain convenience to the people; that is, he went to the trouble of procuring the goods and assembling them in a convenient place for the consumer to obtain them. He also became a convenient medium for the disposal of surplus production. Consequently, the merchant became a popular figure in the social group, and economic affairs became centered around his place of business. The public was willing to allow him a little reward for his services. Insofar as the buying and selling of goods produced and consumed in the immediate vicinity was concerned, the merchant was a useful and appreciated broker. Should he start chiseling too much on either the buying or selling process, he could be by-passed; that is, the sellers could peddle their wares directly to the consumers and the consumers could go directly to the producers for their wants. The important gains to be made by the merchant came from handling goods produced at some distant place but much desired locally. Here, since the merchant could not easily be by-passed, the traffic would bear a more satisfactory percentage of markup, maybe several hundred or thousand percent.

The ability of the consumer to by-pass the merchant on occasion has always been an irritation to the latter. So, from very early times, schemes have been devised for blockading freedom of exchange between individuals and for forcing the consumers to do business through the merchants. At the present time, the economic procedures have become much complicated, and the consumer is entirely at the mercy of the merchants; for, it is almost impossible to circumvent the middlemen in the buying and selling process. Almost everything the consumer obtains nowadays must be purchased from some

The Northwest Technocrat is published quarterly by Section 3, R D 12247, Technocracy Inc., 2208 Eighth Avenue, Seattle 1, Washington Entered as second class matter July 11, 1949, at the Post Office of Seattle, Washington, under the act of March 3, 1879 Subscription rate is $1 00 for four issues Single copy 25 cents. Continental Headquarters of Technocracy Inc are located at Rushland, Pennsylvania. Entire contents copyrighted 1957 by Section 3, R.D. 12247, Technocracy Inc.

professional merchant; and, what is more, the whole social system has been rigged to favor the merchant and to cheat the consumer. The buyer has very little opportunity to go directly to the producer for his supplies, thereby cutting out the merchant. On the whole, the producers themselves are in cahoots with the merchants—that is, they will not sell their produce to the consumer below the agreed retail level.

Under this 'fair trade' setup, the only break the consumer is likely to receive comes from doing business with some renegade merchant who is willing to accept a smaller margin of profit for the sake of handling a larger volume. This practice has become such a menace to established economic institutions that many state legislatures have passed laws upholding the 'fair trade' agreements and penalizing those who violate them. When it comes to the showdown, the political servants of the people always serve the merchants and bludgeon the consumers.

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The merchants themselves do not always have an easy time of it, for they are in competition with other merchants and are subject to the squeeze from other dealers, particularly the wholesalers, producers, and distributors. The small independent merchant is most at the mercy of those who supply him with his stock of merchandise, since he is not in a position to bargain effectively with them. The large department stores, supermarkets, and store chains are in a much better position to obtain favorable terms; so, these can undersell the small merchants and force them out of business. Thus, at least temporarily, these large concerns do the consumers a relative service. In a final desperate effort to hold on, the small merchant extends credit to his customers and stays open after regular closing hours and on Sundays. If his overhead is low, he can get by for a number of years—until his health forces him to retire.

The big merchants compete with each other for the privilege and profit of handling the goods. When competition is open and active, the consumer may get a break in the form of a smaller margin of markup. But competition is seldom open, at least not for long. The merchant despises 'free competition.' He much prefers to operate within a conspiracy, wherein the price-cutting aspects of competition are eliminated.

Division of Territory

One form of conspiracy engaged in by the merchants is the division of the territory of operations among the prime chiselers, so that competition no longer takes the form of attracting customers with lower prices, but rather, becomes reduced to a struggle for territory.

International conspiracies among manufacturing and merchandising corporations with respect to territory of operations and types of products made and distributed are known as cartels. Such cartels are organized to promote the profits of the businessmen and to jack up the costs to the consumers. Under conspiracies of this sort, it is not unusual for the ultimate selling price to be a thousand or two thousand percent of the production cost.

Within a single sovereign domain, such as the United States or Canada, there are also many devices employed by business to promote monopoly control of the marketing of a product and avoiding the 'catastrophe' of competition. In such conspiracies, the political organizations work in close cooperation with the merchants; in fact, most politicians have direct connections and financial interests in business.

The chief politico-business device for promoting monopoly control is the legal franchise. If you want to do business of a certain type within a community, and you don't want to be bothered with competition or a small margin of profit, you get the political fathers of the community to grant you an exclusive franchise. This means that you have the sole right to do that particular kind of business in the community. Of course, the politicians demand, in return, that they have a finger in your business and a certain amount of say as to how your business is run. To keep this relationship as compatible as possible, you either get yourself elected to political office or have a dependable associate in the political setup to look after your interests. Anyway, once you get established, the profits are likely to be satisfactory, and the consumers pay all the costs. If you can wangle your way in, you can't lose. Even the sucker consumers admire you for your success in trimming them. And you become one of the respectable and respected solid citizens of the community.

Price-fixing

Another form of conspiracy is price-fixing. Herein the merchants agree among themselves [covertly, of course] to fix a high price on the products sold to the consumers. For example, when several oil merchandising corporations have service stations in the same community, it is not desirable from their viewpoint to enter into open competition for the consumer's business. It is much more satisfactory for all of them to charge the same price [or nearly the same price] and split the business among them. Of course, there must be no official or obvious colusion among them; that would violate certain political 'restraints.' But, just the same, the prices of all the different companies remain remarkably similar and they rise and decline in unison. When an occasional renegade comes along and tries to undercut prices or improve quality, he has to be given special treatment to discourage such activity, even if he has to be framed on a criminal charge.

The agencies of chiseling are well-organized and have the political administrations 'fixed,' especially the local administrations. The take from the public is tremendous. This setup is possible for two main reasons: [1] The consumers are not organized in support of their own welfare [and both business and politics are doing all they can to prevent them from becoming organized]; and [2] most consumers are also in some chiseling racket of their own and don't want to see it jeopardized by any consumer pressure. Hence, the individual will sell out both his fellow consumers and his own stake as a consumer for the sake of collecting from his own little racket—or for the sake of collecting wages from some gang that runs a bigger racket.

One's connection with a chiseling enterprise may be indirect. For example, the school teacher is continually reminded that her wages are paid by the local political organization, which is dominated by the local businessmen; hence, the school teacher is warned not to do or say anything contrary to the best interests of the 'boys downtown.'

If the hold of the chiseling fraternity over you is still more remote, you are still called upon to support it on the grounds that the businessmen contribute heavily to the taxes which go to provide public services and administer the affairs of the community. This is just so much malarky, however, for any taxes that are paid by the businessmen are treated as part of the costs of operation and are added onto the price of the goods sold to the consumers. On top of that, businessmen utilize every possible loophole in the tax laws to avoid and evade full payment of taxes—and, remember, it is the representatives of business who make the laws governing taxation, including the loopholes.

Everything Is Commercialized

Everything in the life of the consumer has now become so commercialized that he must pay out at every turn. This is in sharp contrast to the pioneer settlers who were about 90 percent self-sufficient and who had to pay for very few things with money. The average city-dwelling American today produces almost nothing in the way of goods and services for his own use; they must all be purchased on the market.

As for his dwelling, the chances are he is paying rent or mortgage installments. On top of that he has to pay for the furniture, utilities, heat, and upkeep; and, if he is classified as a home-owner, he must pay taxes and other assessments as well as insurance, repairs, and general maintenance. If one is working steady and is otherwise lucky, one can have a dwelling in which to live for about a fourth to a third of his income.

The next largest cost, if not the largest, is the food bill. Not all of this cost is for food as such; a goodly percentage of the cost is absorbed by metal cans, glass bottles and jars, plastic containers, cardboard cartons, and various wrappings, all of which, after opening, go to the dump yard or the incinerator. Often the container and wrapping of an item amount to several times the production cost of the item itself. For example, it may cost as much as one cent to produce a hundred aspirin tablets, but the bottle and wrapping may cost as much as four or five cents. After these costs plus the markups are passed on to the consumer, he is lucky if he can get the hundred aspirin pills for less than 30 cents, and he may pay more than twice that amount.

But it so happens that aspirin pills are not a patented product; consequently, many drug concerns are permitted to produce and sell them; hence, the price is relatively low. But, when one or more other inexpensive ingredients are added to the aspirin and the mixture is patented and a registered trade name is given to the combination, you may have to pay upwards of two dollars for a hundred pills which are supposed to accomplish the same results as aspirin, with little or no more effectiveness.

Production Costs

The difference between the production cost and the selling price of numerous medicines, cosmetics, and personal accessories is usually over a thousand percent of the former and may run up to several thousand percent. Standard flashlight batteries, for example, cost a fraction of a cent to produce —done by automatic machines with negligible human employment. But a few years ago, the price of the batteries was boosted to 15 cents each, evidently as part of an industry-wide conspiracy, and now the price is being jacked up to 20 cents each. At two for a nickel retail, flashlight batteries would still yield a handsome profit for their producers. But think how much more enjoyable it is to collect 20 cents each for them! Let the consumers squirm. Who are they, anyway? If they amounted to anything, they would be riding high on a corporation expense account and wouldn't have to worry about prices. Such is the reasoning of the chiselers.

Among the lesser ways in which the consumer is handicapped by the business crowd is the manner of packaging goods. In many instances, the packaging is inconvenient and wasteful, being designed primarily for 'eye-appeal,' a major part of which is deception. Among the latter is the use of over-size packages which are only partially filled. Another aspect of packaging is that goods are made hard to get at, particularly if you happen to take a notion to inspect them on the premises of the merchant. This is related to the tendency to place the better items of a package [fruits or vegetables, for instance] on top and hide the culls underneath.

Packaging Can Be Convenient

That packaging can be made convenient for the consumer is illustrated by the round paper cans of table salt adopted by most salt companies. These have a convenient pouring spout, which is easily opened and closed. In contrast, we note that most powdered soap and detergent packages have an awkwardly-placed opening on the side which is sure to discharge more of the contents than you intend to use, unless you are very careful. Such a design of opening could hardly be due to mere carelessness. Another annoying type of opening is that found on many of the rectangular gallon cans in which liquid materials are dispensed. These have a screw top opening on the top near one corner. But try getting a smooth, precise flow of the liquid from this type of opening if you can; and try preventing it from running down the side of the can and in other unwanted directions!

You will find that particular skills and special instruments are required to get most things out of packages; that is, if it is to be done at all neatly. After opening, most packages are non-reusable and often a part of the contents is also wasted in the process of removing them. It would not be much of a trick to design functional, convenient, and reusable packages of standard sizes. But don't look for this improvement to come into general use under the Price System.

Most Americans drive automobiles and most of them know very little about the construction and care of their cars [other than keeping the paint and chrome polished]. In fact, the automobile is considered a necessity in the American way of life.

Consequently, the car is a sitting duck for all kinds of gouging by the chiselers. First of all comes the fantastic markup by the manufacturers and distributors. This is several hundred percent of the production cost.

If the politicians want some extra revenue, one of the first things that comes to mind is the automobile. Hence, all kinds of taxes, fees, licenses, and fines are imposed upon the car owner and driver. When you buy a car you are taxed; then, you must continue periodically to pay more taxes on it if you are to keep it and drive it. There are registration fees, state licenses, and inspection fees. Some states require insurance, and it is probable that this cost will soon be required by all states. The driver must have a driver's license. After all the preliminaries are taken care of, you must buy fuel and lubrication, all of which is heavily taxed; in the case of fuel, the tax may amount to nearly half of the selling price. After that, you must pay to park the car in most cities and towns; and you must pay additional tolls to travel on certain roads or to cross certain bridges. A garage for the car is a virtual necessity. And, of course, you are subject to a large variety of fines whenever the cops decide to enforce the statutory laws.

But the trouble for the motorist [meaning cost] does not end here. Since he or she knows very little about the mechanics of the modern car, dishonest service station attendants and garagemen are able to work in a little extra graft. [And how many, who are in a position to make a little dishonest money, are going to remain honest for long?] So, the motorist pays for oil and grease he does not get or does not need; he pays for parts that are never installed and repairs that are never made. Or he pays for replacements that are not required, leaving the old part which is often better than the one which is put in to replace it.

Style Changes Costly

Worse than all this is the cost of keeping up with the style changes in automobiles. If one's pride of ownership and 'position' require that he have the latest in car designs, he really pays through the nose. He must pay not only for transportation but for swank and prestige as well. A car which sells for around $3000 will depreciate at least $1000 from the purchase price within two years [more if it is bought on time, since the cost of time payments is also a total loss]. If the owner is an average American driver, he will have between twenty and thirty thousand miles registered on the odometer over the first two years. Consequently, outside of all other costs, he must add at least 5 cents per mile for car depreciation.

If one is more interested in transportation economy than in social prestige, he can shave the item of initial cost considerably by purchasing an older car on which someone else has already paid most of the depreciation. But the other per-mile costs are not likely to be less.

A current trend among American motorists is to invest in one of the small European cars, which give upwards of 30 miles per gallon [U.S.] of gasoline. As compared to American built cars, this provides a saving of about a cent a mile on the operating costs; and there might be a slight advantage on the purchase price. Also, the small cars are easier to park. But you must be satisfied with less horsepower and less passenger and baggage space [which is not much of a factor anyway, since the American car usually carries only one or two people and the baggage space is seldom fully utilized]. There is also the problem of selling the idea of a 'small car' to the womenfolk.

Economy Against Consumer

All the way through, the Price System economy is stacked against the consumer. He is the one who has to pay all the costs, including the costs of pure wastage, which is a big item in the Price System. The only costs he may possibly escape are those financed by debt — provided the debts are never paid off. Even then, he is charged with the interest payments on those debts. All propaganda references to social costs being borne by businessmen, financiers, or the landlords are 'for the birds.' Such costs are all passed on to the consumer, including the cost of advertising and salesmanship. Among the costs which are ultimately passed on to the consumer are the costs of armaments and foreign subversion. The consumer is also charged with the cost of buying up and destroying surplus production so that he will have to pay higher prices for the scarcity that remains.

The American consumer of the present day may have many advantages over the consumer of a century ago, due to the more advanced application of technology and use of extraneous energy; but his position is less secure. His position and probably his life depend on an uninterrupted flow of goods and services, almost all of which is beyond his control. Should the flow be stalled or cut off, he would be helpless. The flow lines are regulated for the most part by the chiselers, in general compliance with the capacity and willingness of the consumers to pay for their discharge. If the consumers are under compulsion to accept a particular item or service, through either necessity or impelling desire, the markup in price is such as to realize the highest possible profit to the merchants. If a certain item does not move with sufficient velocity to be reasonably profitable, it is likely to be discontinued even though it is still much desired by a few. The need of the consumers is not the primary motive of the merchant. That the needs of the consumer are met to a greater or lesser degree by business enterprise is only incidental. The objective is the rakeoff, and the needs and desires of the consumers serve merely as facilities for moving the goods.

Government Enterprise

The consumer is regarded as a sucker, who not only should be taken but should not resent being taken. If he complains about the inroads of the system on his welfare, he is subject to suspicion of giving aid and comfort to the enemies of free enterprise, a most serious offense.

Should anyone suggest that the people of a community engage in a collective project for their mutual benefit—without a rakeoff by private enterprise and a payoff to politics—he is likely to be called a 'communist.' If, however, a community project makes a modest payoff to the politicians and offers a moderate profit to business, it probably would only be called 'creeping socialism.' The concept of mutualism on the part of the consumers is anathema to the chiselers; and any attempt to achieve such is likely to send them into a frenzy of reaction.

In bygone days, when business and politics were not as vigilant as they are now, there developed the concept of consumers' cooperatives, and a few organizations were set up along that line. The cooperatives were never adequate in their programs nor sufficiently inclusive in scope to be highly successful; but the idea did catch on and, as far as they went, cooperatives did provide more for the consumers at less cost than could be obtained through regular business channels. In fact, the cooperatives threatened to be so beneficial to the consumers that the 'good people' shied away from them on the grounds that they were too radical. The prime organizations of chiseling, such as the National Association of Manufacturers and the United States Chamber of Commerce became alarmed. Roadblocks of all kinds were put in their way; and spokesmen of reaction, such as Fulton Lewis, Jr., began frothing at the mouth over the unfairness of cooperatives to free enterprise. It is extremely difficult for any genuinely cooperative activity to be initiated at the present time.

Consumer Regarded As Sucker

An improvement on free enterprise, from the standpoint of the consumer, is government enterprise. In spite of its political background, government enterprise is so much more efficient than private enterprise that it is feared and hated by all the reactionary forces of this Continent. In the past, the government of the United States went in for some public enterprise, such as the postal service, roads and bridges, schools, and waterways development. The Tennessee Valley Authority was an outstanding success as far as it went, but this project has been particularly embarrassing to private enterprise, especially because of its achievement in producing cheap electricity for the area. The Eisenhower administration is doing all it can to correct the past 'mistakes' of the government by now giving away to private enterprise the vested interests of the American public. Among the give-aways have been the Inland Waterways transportation system, the synthetic rubber plants, various public power sites [including Hell's Canyon], atomic energy, off-shore oil, shipbuilding and ordnance, part of the parcel post service, and the Post Exchange stores. Other things have been attempted without success [such as the Dixon Yates deal], and still other give-aways are contemplated.

When Technocracy first proposed that the standard of living of the individual adult citizen of North America be the equivalent of an income of $20,000 per year in terms of 1929 prices, it was considered fantastic. It is still considered so fantastic that no other proposal for consumer welfare comes anywhere near it. Technocracy still tops the list—it offers the consumer by far the most for the least.

The naive individual might suppose that Technocracy's proposal requires that the government somehow raise $20,000 for each citizen to make the yearly payoff. Of course, THAT would be ridiculous. Let us consider what would be involved in Technocracy's proposal: First, all items that are strictly of a Price System nature could be eliminated, such as taxes, insurance, interest, debt, savings, and investments, also gambling. Further, the individual citizen would not be able to hire other individuals to work for him, for there would be no servant class in the Technate. Services would be obtainable, but not servants. Nor would one want an elegant mansion on the outskirts of town; the cost and upkeep would be too wasteful for the society to afford and, without servants, one would be inclined to seek simpler dwelling facilities. The bourgeois pattern of the Price System would be incompatible with Technocracy. On the other hand, a swank hotel apartment type of dwelling, with every convenience and service readily at hand, day and night, would be available to all. High quality food of one's choosing, cooked and ready to eat, would be obtainable at all hours at conveniently-located eating places; or one could order prepared meals delivered to his dwelling; or, if one still insisted, he could obtain food materials and prepare them for eating himself in his own dwelling. Clothing, house furnishings, transportation, recreation, information, and other services and facilities of living would be provided in such quantities and qualities as would not be obtainable in the Price System on an annual income of less than $20,000 [1929 prices]. And, of course, there would be much less paper work and economic worry involved for those living in the Technate.

American Consumer Is a Piker

Unfortunately for himself, the American consumer under the Price System is a piker and a coward. He lets himself be intimidated with phoney threats of poverty and social disdain; and he lets himself be indoctrinated in the scarcity values of the Price System until he is delighted to sell out his heritage and his personal freedom for a pittance—a substandard living, a steady job of work, a burden of debt, and a few bangles. On top of that, he is subject to call at any time to risk his life, his fortune, and his honor in 'defense' of the bourgeois prosperity of the upper ten percent of the population.

How is the North American consumer ever going to come into his heritage and start living like a respectable and respected human being? The citizens of North America are a sovereign power. They can make their own decisions and enforce their will [within the physical capabilities of the Continent]. A fraction of one percent of the citizens, with a spirit of determination, a display of disciplined organization, and a definite goal, can initiate and carry to a conclusion a social movement for Abundance, Security, and Freedom from Toil. This small fraction of the people must come from all walks of life and functions on the Continent and from many localities.

No Help

The consumers of North America can expect no help from the upper ten percent in the economic system. That minority has already 'arrived' and its members are already big shots, with relative wealth, luxury, and prestige. If you were one of them, would you want any social change to occur on this Continent? Not likely! There is an occasional individual in this upper minority who has the vision and the audacity to go along with Technocracy, but he is considered to be a virtual traitor to his class. There are many others among the top ten percent who have the capacity to understand the situation, even to be sympathetic 'at heart' with Technocracy, but their favored position in the system makes them short on initiative and desire.

For the most part, the consumers of North America must organize from the ranks of those who have much to gain from the change and who have the courage to participate actively in the Organization. There is no practicable way for the consumers to organize for changes beneficial to them within the Price System. Their only hope lies with the abolition of the Price System from this Continent. That means, there is only one choice open to the consumers and only one direction for them to take. Fascism, communism, socialism, democracy, or mutual cooperatives—none of these offer an answer. Technocracy is the only blueprint for Abundance in existence. North Americans do not even have available to them the classical British strategy of 'muddling through'; for, there is no way 'through' the Price System for North Americans—they can only 'muddle' until they bog down completely.

The consumers of North American have everything to gain from Technocracy and nothing to lose except poverty, worry, and toil. Since you are a consumer and your Number One interest in life is to consume more abundantly, your place is in Technocracy.

—Wilton Ivie, CHQ

Have You Observed?

. . . **Have you observed** that the political Price-System government of our United States is willing to spend and give away our money and resources abroad by the billions of dollars, but is niggardly about spending money for our services here at home? The recent difficulties of the Postoffice Department are illustrative. In the midst of a politically inspired economy drive, a few million dollars were denied the Postoffice. Now, it is obvious that the Postoffice is a functioning organization, and that insofar as its physical functioning is concerned, it is an efficient one. It carries and distributes the mail, and out of the billions of pieces carried, the few that go astray are subjects for news items in the oddities columns of newspapers.

. . . **The Postoffice** is a politically-controlled department whose employees function under civil service. Its rates are set by Congress, and yet there are those who accuse it of inefficiency because it does not make a profit. These rates are influenced by publishers, advertising agencies, and businesses that can profit from low rates for second and third class mail such as magazines and newspapers, books, direct mail advertising, and mail-order shipping. In this category too, let us not forget those who advertise in the above mediums, and who, therefore, have a vested interest in low postal rates on these items. The postal system is burdened down by the great volume of low-rate mail on which it is impossible to make the expenses of handling this type of mail.

. . . **These comments** on the Postoffice Department are made, not with the purpose of defending governmentally owned and operated projects, but to illustrate the tendency of price-system political government to whittle away at the few real services the people receive here at home, while lavishly giving our money and resources away abroad.

Warner Swasey, big manufacturer of machine tools, construction machinery, etc., likes to spend his company funds in full-page ads in magazines, belittling government ownership and singing the praises of free enterprise for profit. If this propaganda is charged to the expense of advertising, it would appear as an expense, and consequently reduce their profits and their corporation profits tax. The burden of their ad in May 10 issue of U. S. News is that government owned enterprises compare favorably with private-profit enterprises only because the former were built with public funds and do not pay taxes as do the private enterprises. There is apparently some distortion of facts here, because numerous publicly owned projects have paid off the cost of construction from revenue, and some do pay taxes. Furthermore, the rates to the consumer are much lower. When private enterprise builds a hydroelectric project, for example, it does so with the expectation of recovering the full cost plus a reasonable profit; and, if there were no competition, 'reasonable' would be interpreted as 'all the traffic would bear.'

. . . **And have you observed** that the same people who have become Technocrats continue to be Technocrats year in and year out? This is because the Technocrat knows that Technocracy is the only solution to the overall problems in North America. So he does not follow one lead today and another tomorrow, as so many non-Technocrats are prone to do.

—12247-1

GROSS NATIONAL PRODUCT

Gross national product rose to an annual rate of $427 billion in the first quarter of 1957. This represents a $3.2 billion increase over the previous quarter and a $23.6 billion gain over the year-ago rate. Consumer expenditures rose $4.1 billion last quarter to an annual rate of $275 billion, but private domestic investment declined $4 billion to $64.5 billion. Increases also occurred in net foreign investment and government purchases of goods and services.

—Bank Bulletin

RADIATION

A new warning of danger to mankind came recently from the United Nations. A report issued by the U. N. cited the possibility of "irreversible and cumulative genetic damage" to the human race, if radiation keeps mounting from H-bomb tests, medical x-rays and radioactive wastes left by atomic industries.

—Labor

SOLAR ENERGY

Technocracy salutes the Editors of Power Engineering and the author, John Yellott, for this contribution to the further enlightenment of the American public regarding our energy needs of the future. Technocracy has long advocated that research be directed to the utilization of solar energy—the only endless energy supply available.

A BRIEF RESUME of John Yellott's article **Energy for Tomorrow—Inventory and Appraisal,** which appeared in Power Engineering magazine will help explain the importance of solar energy to our civilization in the years ahead. He points out that western man has lifted his standard of living largely through the application of energy. Electricity allowed him to apply power via the electric motor where it was needed. Today the world's energy demands come from 30 percent of the population. When all of the population demands for energy are totaled, man may have to tax his ingenuity to find adequate supplies.

Two factors control the key to our future energy needs. One—the tremendous increase in the use of energy in the past 50 years and the ever-increasing need for energy in the next 50 years. Two—the shift from renewable energy forms such as wood, wind and water to the non-replaceable capital energy in the form of fossil fuels. 'The only inexhaustible energy source known today is solar radiation.' 'A new appraisal of this, our only income energy, is certainly in order today when our expenditure of capital energy is so prodigious.'

Growth in prime mover horsepower in the century from 1850 is the most significant index of progress. In 1850, 23,200,000 inhabitants had available about 8,500,000 hp. or 0.366 hp. apiece. In 1900, 106,500,000 people had 65,000,000 hp. capacity or 0.61 hp. per capita; while in 1950, 151,700,000 people had available 4,748,000,000 hp. or 31,2 hp. per person.

Estimated population trends indicate an ever-increasing population with the accompanied increase in per capita use of hp. 'The furnishing of this energy will strain to the utmost our nation's capital stock of both money and energy.

Today fluid fuels supply 62 percent of our energy needs. Recovery costs and available reserves will largely determine how long and at what use-rate fluid fuels can supply energy for the U. S. populace. 'The deterring effect of rising cost is likely to be the most important factor in checking the apparently unlimited rise in America's thirst for petroleum and its products.'

The demand for natural gas has increased more rapidly than the demand for petroleum since World War II. After investigating gas resources versus expected consumption the author comes to the conclusion that natural gas will be in short supply around the end of this century.

Hydroelectric power is the only income energy aside from wood and farm wastes which today plays a significant role. By 1955 the U. S. hydroelectric capacity was 24,200,000 kw. Undeveloped water power is estimated to be 82,800,000 kw. The author estimates the hydroelectric energy output in 1975 will be $2\text{x}10^{15}$ Btu [British Thermal Units]. Compare this with the estimate for oil of $30.8\text{x}10^{15}$ Btu and for natural gas of $19.3\text{x}10^{15}$ Btu.

In analyzing the coal reserves, Mr. Yellott finds that they are very large in the United States and fuel needs can be met for many decades to come. Coal industry people predict much higher annual production rates and total outputs. Synthetic liquid fuels from coal may have difficulty competing pricewise with petroleum since water and transportation are not available in the arid regions which are generally the location of the coal deposits.

Oil shale deposits in Colorado could supply some energy but mining and processing are formidable problems. The average yield per ton of shale is 15 gallons and yet 3 tons of ash will remain per barrel of liquid produced.

Nuclear energy applied to the generation of all electric power in the United States would save only 12 percent of our fossil fuels. Where fossil fuels are scarce and hence expensive, these regions will probably resort to the use of nuclear power more rapidly than in the U. S. It is estimated that all of the world's fossil fuel reserves may total $27{,}000 \times 10^{15}$ Btu and the estimate for nuclear fuels may total $575{,}000 \times 10^{15}$ Btu.

'The development of a really satisfactory means of energy storage is a vital necessity if we are to retain the mobility which automobiles and airplanes have taught us to expect. When some radically new storage device is found, we can apply it to a myriad of uses, from running automobiles to storing solar energy.'

'Nuclear fission is not an endless asset in our capital fuel account, because there is a large but not unlimited amount of uranium and thorium buried in the earth. The fusion process which unites nuclei of hydrogen isotopes to form helium atoms would be essentially a perpetual energy source on earth as it is in the sun, because the seas around us are endless reservoirs of hydrogen. No way is now known to contain the fantastic temperatures [100,000,000° K] at which the fusion reaction proceeds, but in theory, at least, an intense magnetic field could do the job.'

'The only endless energy asset which the earth possesses is solar radiation.' 'Solar energy which reaches the surface of the United States is about $50,000 \times 10^{15}$ Btu per year, or more than 1000 times today's annual energy demands. Unfortunately, vastly more ingenuity will have to be exercised before we are able to utilize even a fraction of one percent of the available solar energy.' The first probable uses for solar energy will be in the heating and cooling of buildings, the distillation and pumping of water for drinking purposes and later for irrigation. The following article will discuss the availability of solar energy and the devices used to harness it.

—12247-3

Energy From The Sun

By JOHN I. YELLOTT

Reprinted from Power Engineering, February, 1957

RADIATION, the fuel[†] for solar energy, is the radiation which the sun transmits to the earth through some 92,500,000 miles of virtually empty space. Unlike the extremely potent radiation which constitutes the fuel for atomic power plants, solar radiation is diffuse and contains no lethal frequencies. The wavelengths which reach our atmosphere range from the invisibly short ultra-violet [0.25 microns] through the visible [0.4 to 0.8 *u*] to the far infrared [20 *u*]. Of the sun's radiant energy, 99 per cent is contained in the narrow band between 0.25 and 3.0 microns.

The distribution of radiation intensity throughout the solar spectrum tells us that the sun's surface temperature is about 10,000 F. The temperature of the sun's interior, where hydrogen fusion produces the virtually unending conversion from matter to energy, is estimated to be 30,000,000 F!

Solar energy is measured in terms of the heat produced when the radiation falling on a surface is completely absorbed. The unit of radiation measurement [one gram calory per square centimeter] is the langley [ly], named for the great astronomer of the Smithsonian Institution. Converted to more familiar units:

1 ly=3.687 Btu/ft^2 [Btu per square foot]
1 ly/min = 221.2 Btu/ft^2-hr [Btu per square foot per hour] = 698 watt/meter^2 [watts per square meter]

Beyond the Atmosphere

The rate at which solar energy reaches the earth's atmosphere is known as the solar constant. The first accurate value was John Ericsson's estimate of 7.11 heat units per min per sq ft [426 Btu/ft^2-hr]. Measurements of great precision were made before World War I in many parts of the world by Smithsonian expeditions headed by Dr. C. G. Abbot.[1] He found definite evidence of minor variations in the sun's output, and concluded that a reliable average value was 1.94 ly/min or 429 But/ft^2-hr. This value was raised slightly in 1954 by Johnson and again in 1956 by Stair and Johnston[2] after studying data from high altitude rockets and from spectroscopic measurements made at Sun Spot, New Mexico. 2.04 ly/min [451 Btu/ft^2-hr] is now believed to be a good mean value.

The radiant energy which reaches the outer

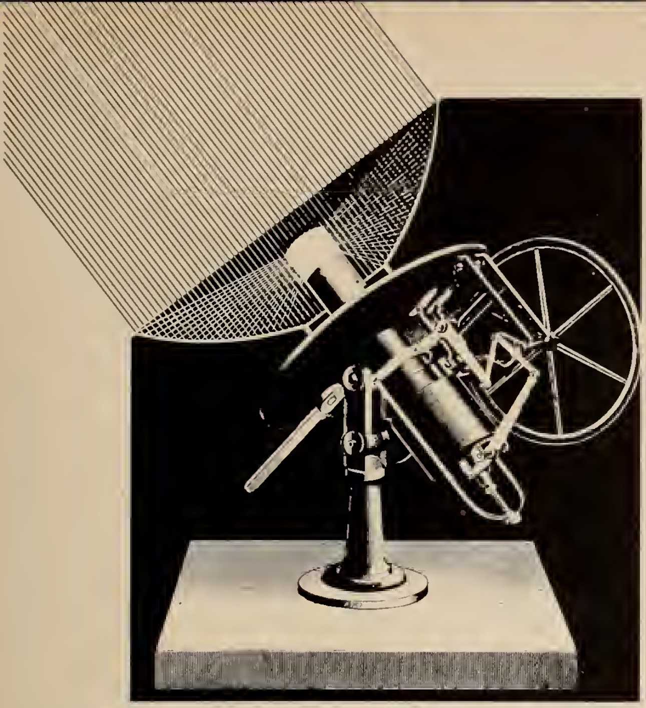


Fig. 1. Ericsson's first solar engine was able to generate a fraction of a h.p. (Illustrations and photos courtesy of Power Engineering.)

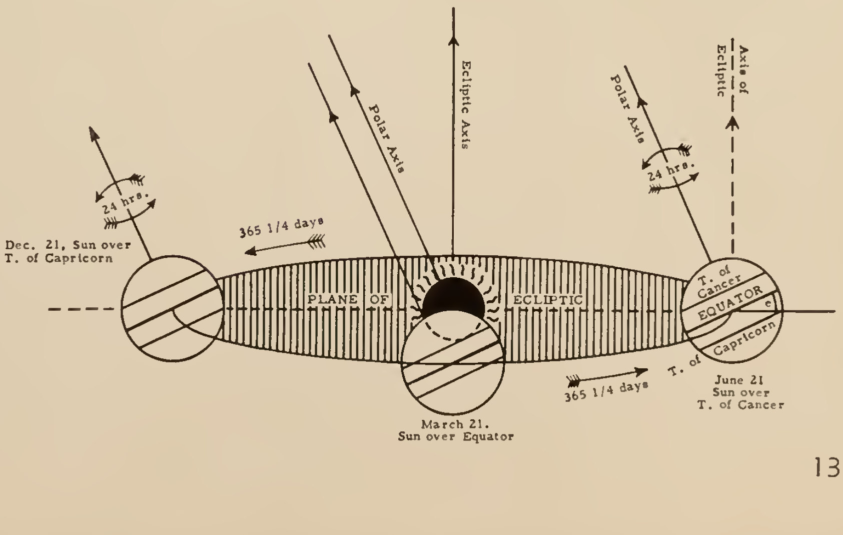
fringes of our atmosphere is materially reduced by scattering and absorption before it reaches the earth's surface. On a clear day, at sea level the **direct** radiation may range from 250 to 320 Btu/ft^2-hr. The 30 to 40 per cent which is scattered by dust and absorbed by air molecules, water vapor, etc., is not entirely lost, because about half of it reaches the earth as **diffuse** radiation. The total usable solar energy is the sum of these two components. A concentrating collector, such as a solar furnace, can use only the direct radiation which travels in straight lines and can be focussed. A flat plate collector can use both the direct and the diffuse radiation.

The total amount of radiation which reaches a collector on the earth's surface depends upon the number of hours of sunshine per day, and the thickness and nature of the atmospheric path through which the sun's rays must travel. The angle between the collector surface and the rays also determines the amount of energy which can be collected per sq ft of surface. The first two factors depend primarily upon the earth's movements around the sun and local weather, while the arrangement of the collection surface is a matter for the designer to determine.

The earth moves around the sun [Fig. 2] in a slightly elliptical orbit which causes us to be some 3½ per cent farther away from our energy source in summer than in winter. The celestial axis about which our planet rotates daily is not parallel to the axis of the elliptic plane of our orbit and so we are tilted away from the sun in the winter, and towards it in the summer. This 23½ deg tilt means that, in mid-summer, the sun's radiation has a minimum thickness of atmosphere to traverse before reaching the earth's surface. In mid-winter, our part of the globe is tilted away from the sun, and solar radiation must travel through a maximum blanket of air in order to reach us. Horizontal collector surfaces are also more effective in summer than in winter because of the sun's higher position in the sky.

Our tilted axis causes the length of our day to vary with the season. A simple excursion into astronomy tells us how high the sun will rise in the sky on any given date. On the two equinoxes, March 21 and September 21, the sun's noon altitude will be equal to the local latitude plus 23½ deg. Taking Phoenix, Arizona [latitude 33½ deg N], as an example, the sun's noon altitude on the two equinoxes is 57 deg. By June 21, the sun has moved 23½ deg farther north, and the noon altitude is 80½ deg. On December 21, the sun reaches

Fig. 2. The slightly elliptical orbit of the earth, as shown right, causes us to be 3.5 percent farther away from our energy source in summer than in winter.



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† Since the term 'fuel' has been adopted in nuclear technology for an energy source which is radiant rather than combustive, the same concept may be used in discussing solar energy.

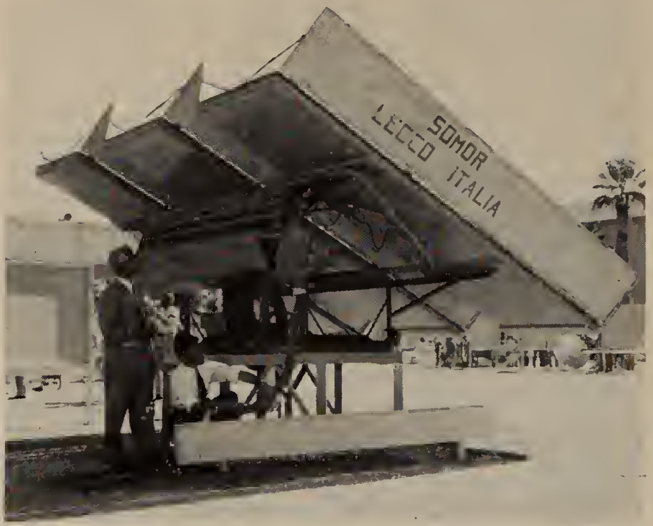

Fig. 3. Somor Solar Pump, which converts the sun's radiant energy into mechanical work. Turntable enables collectors to be turned to the most efficient position.

its most southerly position; the day is only 10 hours long and the noon altitude is only 33½ deg.

Solar Energy Inventory

The U. S. Weather Bureau maintains 58 stations where daily measurements are made of the total solar energy falling on a horizontal flat plate. The direct radiation component is measured at a few other locations and the data are published monthly.[4] These data have been analyzed and correlated to give the type of chart shown in Fig 4. Average total radiation per summer day in the United States varies from almost 2600 Btu/ft^2-day in the arid mountains of the Southwest to 1850 along the coasts from Maine to Florida. In winter, latitude is the most important factor.[5]

A single sq ft of collector surface in Maine or Oregon will receive about 440,000 Btu in a year, while the same sq ft, moved to southern Arizona, would receive nearly 730,000 Btu. Latitude and cloud cover are the two most important factors in determining the total insolation at any particular location.

Most of the inhabited areas of the world receive plenty of solar energy to meet all of man's requirements. The United States, for example, receives more than $30{,}000 \times 10^{15}$ Btu, or 700 times our present energy use. The problem which the engineer must solve is how to use this abundant supply of free **income energy** at a total cost which is within our ability to pay.

Utilization of Solar Energy

The sun's energy manifests itself as thermal, photo-electric and photo-chemical effects. A brief summary will be given of the first two. The third, which includes the most important process of photosynthesis, is beyond the scope of this brief review. Men have tried to use solar energy since earliest times, but no means existed to generate useful power from the sun's heat until steam and hot-air engines were invented. Crude devices to heat water by solar energy date back many years, and production of salt by solar evaporation of sea water is probably the most ancient of man's sun-activated processes. Photo-electricty has been known for almost a century, and millions of selenium photocells have been used as light-meters and in similar applications. The silicon cell, developed within the past two years by scientists of the Bell Laboratories and Hoffman Electronics, is the most efficient way known today to convert sunlight into electricity.

Most fundamental of all thermal solar processes is the simple fact that, when sunlight falls upon a

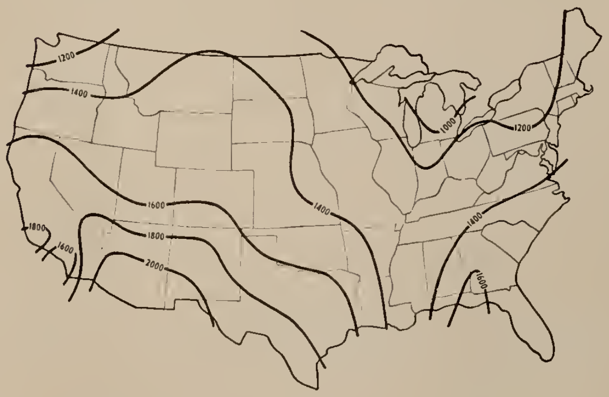

Fig. 4. Distribution of solar energy over the United States. Figures give solar heat in Btu per sq. ft. per average day.

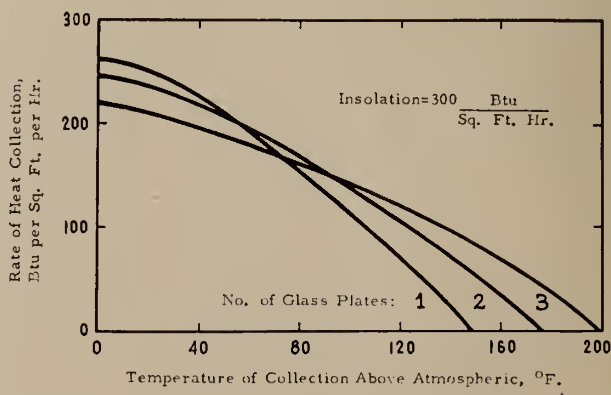

Fig. 5. Chart showing relation between temperature, number of plates, and efficiency for a flat plate collector.

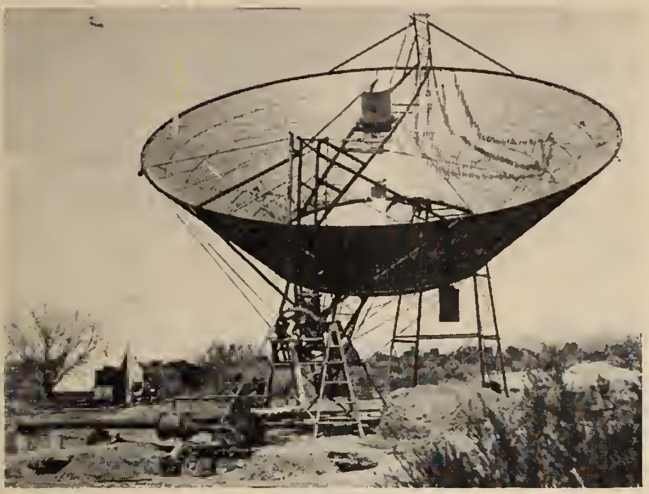

Fig. 6. Concentrator-type solar plant, constructed in 1901 at Tempe, Arizona, was used for pumping irrigation water.

surface of any kind, the surface becomes warmer than the surrounding air. The extent to which the surface temperature rises depends upon many factors, most important of which are, a, the angle between the surface and the sun's rays; b, the absorptivity of the surface, and c, the precautions taken to prevent the surface from losing the absorbed heat by convection to the surrounding air, by conduction through its supporting structure, and by radiation back to the sky. A detailed discussion of these factors can be found in references 3, 7, 8, and 9.

The angle effect is caused by the fact that the sun's rays travel in straight lines. When a surface is perpendicular to the rays, their **intensity** is at its maximum, but when the surface is tilted away from the sun, the radiation intensity drops off and reaches its minimum when the surface is horizontal.[3]

The absorptivity of the surface is extremely important, since shiny metallic surfaces reflect most of the incident energy, while dull black surfaces can absorb as much as 96 to 98 per cent. Recently, a type of surface has been developed by H. Tabor of Israel which is highly absorptive for the short wavelength radiation from the sun, but is a very poor emitter of the long wavelengths which come from low temperature surfaces. This selective absorption is a very important discovery and one which deserves greatly intensified research.

The most effective way to minimize the loss of energy from the sun-heated surface is to cover it with one or more sheets of a glass-like material which is transparent to the sun's rays but opaque to the longer wave lengths emitted by the warmed surface. This is the familiar greenhouse effect. The air space between the surface and the glass is an effective preventer of heat loss by convection. The insulating effect is materially improved by evacuating the space.

Flat Plate Collectors

A flat plate of blackened metal, covered with one or more transparent sheets of glass or plastic, is the simplest collector of solar energy. Some means must be found to transport the collected energy to a device which can use it, and this is most readily done by attaching tubing to the surface. A fluid can then be used to carry the heat to the point where it can be used. Recently, two processes have been developed by which the tubes and the sheet are integral, thus greatly reducing the cost of the collector. Plastic cover sheets with the same optical properties as glass, but with much lower cost, are also available now. These two developments will bring about a major reduction in the cost of solar heat collectors.

The temperature at which the energy can be collected is of paramount importance. As this temperature rises, the heat loss from the collector also increases, and the efficiency of collection drops off. Efficiency is important in solar engineering be-

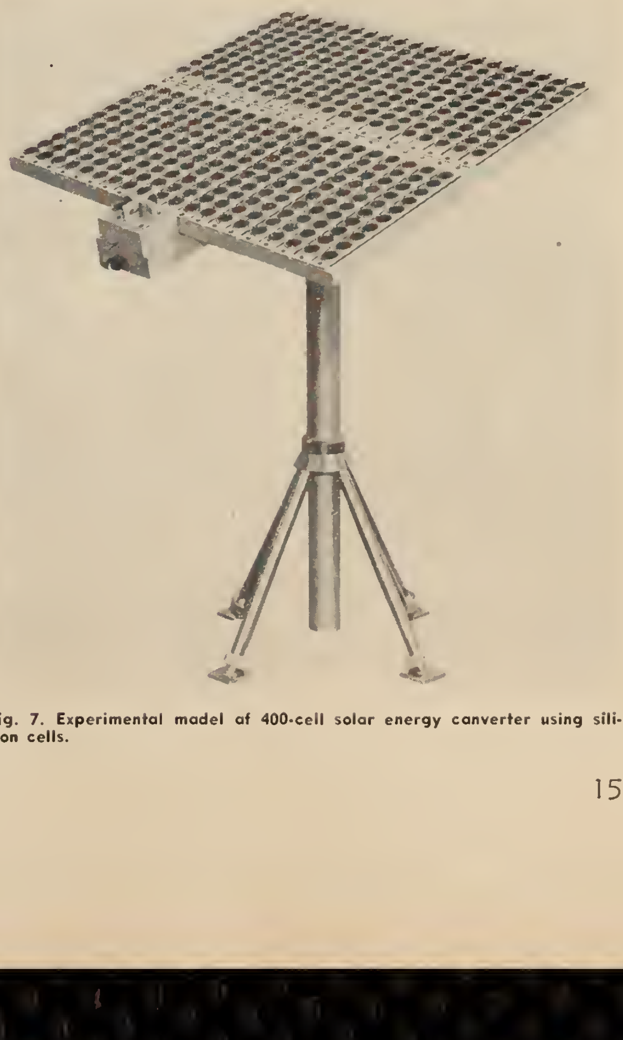

Fig. 7. Experimental model of 400-cell solar energy converter using silicon cells.

cause it controls the first cost of the installation rather than the operating cost as in more conventional fuel-burning equipment. The relation between temperature of collection, number of cover plates, and collection efficiency for a particular configuration[9] is shown in Fig. 5.

A flat plate collector, operating under favorable conditions, can readily maintain its surface temperature at 100 F above the ambient air. Water and air heaters in the southern half of the United States, for example, can operate at 150 F to 160 F outlet temperature without difficulty during most of the year.

Space Heating

Once heat has been collected in the temperature range of 140 to 160 F, it can be used in a variety of ways. Here are some of the potential and actual applications.

Space heating is probably the most important, since nearly one-third of our energy supply is used for this purpose. An excellent example of this application is the heating system recently installed by Bridgers and Paxton in their new Solar Building in Albuquerque, New Mexico.

Here virtually all of the heat required to maintain comfort throughout the winter will be procured by 890 sq ft of aluminum collector surface, covered with single sheets of window glass. Water is used as the working fluid and heat storage is afforded by a 5000 gal tank buried beside the building. A heat pump is used to supply auxiliary heat when four sunless cold days occur in sequence, and to cool the building in summer. This use of a warm water-to-air heat pump is likely to become increasingly important in the future when electricity will supply most of our domestic energy needs.

The distillation of sea water is another process of great potential significance which can be accomplished by variations of the simple flat plate collector. A single glass or plastic cover above a moistened black fabric provides a very simple heat trap which can produce more than a gallon of distilled water per day for each 10 sq ft of surface.[12] Recent developments of multiple-effect evaporators give promise of multiplying this output by a factor of at least four. Major developments in the solar distillation of sea water should result from a program now under way at San Diego, Calif., under the sponsorship of the Office of Saline Water, U. S. Department of the Interior.

The production of temperatures low enough for air conditioning and domestic refrigeration can be accomplished by absorption systems using ammonia, water and hydrogen. This is a very important potential use of solar energy which is only now beginning to receive the attention which it deserves. A significant degree of cooling can be accomplished by radiating heat to the night sky and storing the chilled water for use during the heat of the day.

Power in limited quantities can be produced from flat plate collectors by the use of volatile fluids such as SO_2, Freon, etc. One example of this process is the Somor pump, produced in Italy and demonstrated at the Solar Engineering Exhibit in Phoenix in 1955. The vapor is used to operate a small reciprocating engine which drives a pump. The water which is lifted by the pump is used to cool the condenser.

The use of Tabor's selective surface on well-insulated flat plate collectors which track the sun will enable vapor to be generated at respectable pressures from Freon and similar fluids. More efficient solar prime movers will undoubtedly come from this combination.

Concentrating Collectors

Collectors which concentrate sunbeams of large area on relatively small areas can operate at temperatures up to 5000 F. The solar furnaces now used for high temperature research use precise parabolic reflectors to concentrate large amounts of radiation upon small targets. Such furnaces can maintain temperatures above the melting point of any known metal for daily periods up to 8 hours.

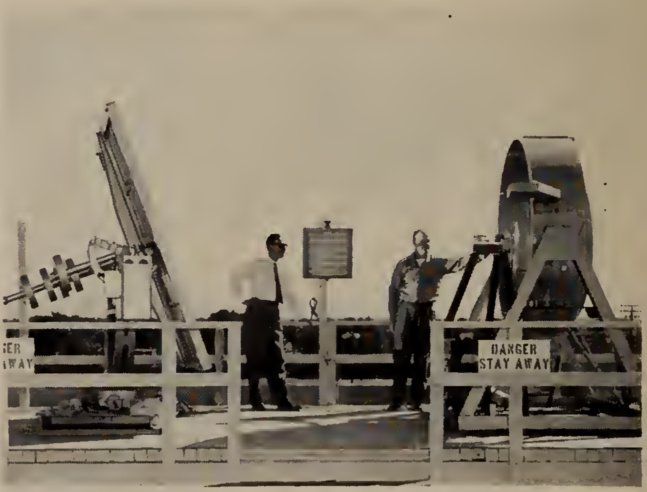

Fig. 8. Solar energy furnace, with a 5 ft. diam. parabolic reflector, recently installed at Arizona State College.

Figure 8 shows the 5-ft diam furnace now in use at Arizona State College in Tempe.

Power generation from solar energy has been accomplished many times during the past 100 years. None of the developments described below has been a commercial success, but each has moved a step forward towards a goal which must some day be achieved.

America's first great solar scientist was John Ericsson. The fame and affluence which were his rewards for the victory of the "Monitor" over the "Virginia" enabled him to devote the last 25 years of his life to solar energy. His first operable solar device was the hot air engine shown in Fig. 1. The conical reflector, which concentrated the sun's rays upon the hot end of the single cylinder, collected enough solar energy to permit a fraction of a horsepower to be generated.

Ericsson determined that the conical concentrator could not collect enough energy at the available rate of insolation, 250 to 300 Btu/ft^2-hr, so he turned his attention to the much larger steam engine. The hot air engine was converted into a gas burner, and thousands were sold for water pumping and similar low powered applications.

One type of parabolic trough concentrator used flat silvered glass mirrors to direct the radiation "contained in a sunbeam of 23,400 sq. in. cross-section" upon a heater tube 6½ in. in diam and 11 ft long. The resulting 27-fold concentration permitted steam to be generated at 35 psi abs in quantities sufficient to run the 6 in. by 8 in. condensing engine at 120 rpm.

The arrangement shown in Fig. 1 is typical of concentrator-type solar plants. These must be able to track the sun, so that its rays can be focussed upon a collection element. The largest plants erected in the United States were those built shortly after 1900 by A. G. Eneas, an Englishman whose work was financed by a group of Boston investors. Figure 6 shows a photograph taken in 1901 of a plant on the banks of the Salt River at Tempe, Arizona. This collector was rotated at the necessary 15 deg per hour by a weight which was cranked up to the top of the supporting tower each day. The change in the altitude of the reflector was made manually every few days. This plant was used for pumping irrigation water until it was destroyed by a sandstorm in 1903.

Largest Plant in 1913

The largest of all solar power plants was constructed in 1913 at Meadi, Egypt, by Frank Shuman, again with English capital, and with the wise counsel of the British physicist, E. V. Boys. Shown in an artist's version in Fig. 9, this plant used seven parabolic troughs, 14 ft wide at their opening and 205 ft long. The economics of this installation in 1913 were marginal, and the advent of World War I caused it to be abandoned.

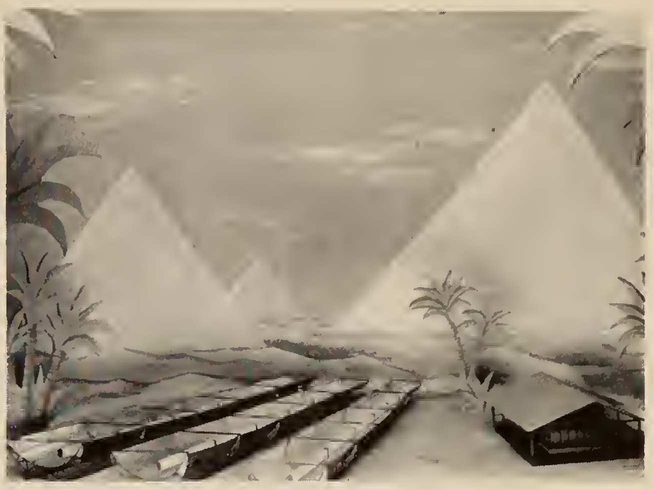

Fig. 9. Artist's version of solar power plant built in Egypt in 1913 with 14 ft. wide by 205 ft. long parabolc troughs.

Interest in solar power plants has been revived since World War II, primarily as sources of irrigation water and small amounts of electricity.[6] Dr. C. G. Abbot has built several very efficient small steam generators using parabolic concentrators which focussed the sun's energy upon blackened copper pipes contained within evacuated glass tubes. The largest of these is about to be tested at the University of Arizona.

Direct current can be generated by sunlight falling upon several kinds of photocells. The oldest, least efficient, and cheapest of these is the selenium cell which constitutes the familiar electric eye. Its efficiency calculated by dividing the power output by the energy input is about 1 per cent, which is enough to justify its use for control devices, flame-eyes, etc., but not for power generation.

Several years ago, a team of Bell Laboratories scientists found a new photo-electric element in the so-called silicon p-n cell. This adventure in solid-state physics is a version of the transistor which is rapidly replacing conventional three-element vacuum tubes. A thin section of crystalline silicon, very slightly contaminated with arsenic and boron, has the happy property of converting 10 to 15 per cent of incident solar energy into an electric current. The output of each cell ranges up to

0.6 v, and 12 cells, in a series-parallel arrangement, can easily run a small radio and charge a battery to provide power in sunless periods.

Where economics is the determining factor, solar energy in the form of heat at 100 to 160 F is already competitive in the southwestern parts of the United States. The balance must lie between lower fixed charges and high energy costs for conventional equipment, and higher fixed charges for solar equipment where there is no cost for the Btu's.

Solar heating, with water, ceramic, or chemical storage, is already a reality in Arizona, New Mexico, Colorado, and Massachusetts. The water-to-air heat pump, which does double duty as an auxiliary heat source in winter and a cooling unit in summer, is certain to become much more widely used as oil and natural gas become scarcer and hence more expensive.

Air conditioning by solar energy is in its infancy, but it offers an excellent application. The cooling load in summer is a function of the amount of solar energy, which means that radiation-powered cooling equipment would have the greatest capability when the need is greatest. Absorption refrigeration looks like the most promising process for this application.

When physicists discover new ways to generate electricity directly from radiation, without going through the thermal cycle, both nuclear and solar power will move forward rapidly. Until that time, solar plants will probably continue to be relatively small and applicable only to special purposes such as irrigation and power production in isolated locations. The present silicon cells are now competitive with battery power and in time their cost will be reduced to the point where they will be more widely used.

Other devices for utilizing solar energy are shown in Figs. 3 and 7. Figure 3 shows the Somor Solar Pump, while Fig. 7 showns the Hoffman Electronics Corporation's "Big Bertha," a 400 cell solar energy converter, using silicon solar cells. In the lower left edge is the tracking device which allows the unit to follow the sun across the sky for maximum efficiency. In bright sunlight, the unit can convert the sun's energy into about 10 watts of electrical energy.

Solar radiation is the one inexhaustible energy asset which our world possesses. Up to the present time, mankind has been able to draw upon the capital energy in the earth's fuel bank, but the time will come when this energy will be scarce and hence expensive. Research is needed now to learn how to use solar energy cheaply and effectively to heat and cool our homes, produce fresh water from salt, and ultimately to generate large blocks of electrical power.

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GIANT "BIZMAC" BRAIN

DETROIT—A moaning, clicking machine covering half an acre has taken over the job of keeping track of $2,000,000,000 worth of spare parts for America's global Army's 1,000,000 tanks and other vehicles.

According to Radio Corp. of America, which built the gadget called Bizmac, it's the biggest calculating and cataloguing system ever constructed. According to the Army it will save, through elimination of waste, several times its cost each year.

In a demonstration to the press recently the system computed the 1957 predicted batting averages of Mickey Mantle [.342] and Ted Williams [.322] in the crack of a bat. And with similar speed and efficiency the device can tell the Army Ordnance Tank-Automotive Command Headquarters here how many nuts and bolts it has in its twelve supply depots on three continents.

Essentially, Bizmac is a machine for handling information and it can do in rapid order what no human brain can. It can:

Receive by telephone reports of stocks in supply depots.

Store complete information on 170,000 items ranging from complete engines to tiny rubber washers on 185 tape recording machines.

Compare the incoming information with data already on tape and change the records accordingly.

Alert the Army to the depleted stocks and print out orders to replenish.

Answer in three minutes anything that needs to be known about any item.

With these capacities the Army hopes for the first time to be able to answer with great accuracy such questions as:

How many replacement parts must be stored? Where must they be stored? How much will they cost? How many should we order from the factories? When should we order them? When should we throw them away? How much advance notice must be given to the factories for the manufacture of an item [lead time]? Should we build a special factory?

Bizmac does these jobs with an interwoven assembly of 220 smaller computing and cataloguing machines. The total weighs 270 tons.

One device transcribes the electrical telephone impulses onto punched cards.

Another records the punchcard information onto magnetic tapes at the rate of 400 cards a minute. Each item is set down twice to cut errors.

A third machine can sort out the information on tapes and arrange them in any desired order. This would be like taking the names in a telephone directory, shuffling them, and then re-alphabetizing them.

A fourth machine—the one that figured out the batting averages—adds up the items, keeps the records straight, does the accounting, and figures out what has to be figured out.

A fifth prints out the results in English and numbers at a rate of 600 lines a minute on a piece of paper as broad as a single page of a newspaper. In a demonstration this printer typed out a 1,200-word press release in fifteen seconds while a standard teletype by its side punched out fifteen words.

—New York Herald Tribune

MY TWO CENTS WORTH

I've been hearing quite a lot of complaints around our neighborhood lately about the working people getting put on shorter hours. When the war was on and just afterward, most of them were getting overtime besides their regular work. Now some of them are getting only 35 hours a week, and they don't like it at all. I guess people are kind of funny. Back in the old days when they had to work ten and twelve hours a day, they complained that was too long and too hard for people to work. So the workers put up a big fight to get the day shortened to eight hours, and they didn't want to work on Sundays or Saturdays either. When they got the hours down to where they could begin to enjoy other things, then they needed more money to spend, so they wanted to go back and work longer again. Now it seems, if a man can get work for twelve hours a day for seven days a week, he feels lucky and he doesn't complain about it being too hard on him at all.

It looks silly to me for people to want to work, anyway when they want to work overtime. It seems to me the less hours of work the better. Then you have more time to loaf and enjoy life. If you don't get paid so much, so what? You don't have to loaf quite so expensively as if you had more money. I would rather loaf cheap for longer times than to loaf expensively for a shorter time. But, I guess, most people don't think that way.

Of course, there is another reason for some of the men, at least, wanting to work for longer hours. It gives them an excuse to stay away from home longer. When they do come home, their wives are always nagging at them to do things around the house for them and their kids treat them like people used to treat servants. Living in a home in a suburb ain't all a bed of roses for a man nowadays, especially if the family don't get as much money to spend as they used to have.

As for me, myself, they can cut my time as much as they like. I have too many other things to do to be bothered with work anyway. That reminds me, it is time to be putting up the hammock for the summer again.

—Ima Moron

DEVELOPING TRENDS

CONTROL OF CANAL PLANNED BY PANAMA

LONDON—President Ernesto de la Guardia of Panama was quoted by the London Daily Express recently as saying his country intends to "resume complete sovereignty" over the Panama Canal and its surrounding zone.

"There is deep feeling in our country over the question of sovereignty," De la Guardia was quoted as saying in an interview with Express Correspondent Rene MacColl. "I would say that the prevalent public sentiment is in favor of a takeover by Panama."

The president added, however: "I want to make it clear that we are not hostile to America. We regard ourselves as partners in a common enterprise and I feel that we can argue with the Americans without upsetting anyone."

Under its 1903 treaty with Panama the United States enjoys "rights in perpetuity" over the vital 50-mile waterway and over the canal zone stretching for five miles on each side of it.

MacColl described De la Guardia as a "bright-eyed charmer" ruling over "an extraordinary country which crouches across one of the most vital water links in the world."

The president was quoted as saying: "Many respected United States legal authorities agree that there is no question about our sovereignty in this matter.

"We firmly claim sovereignty over the canal—on that point we will not yield. The phrase 'in perpetuity' as regards the American lease of the canal has now become quite academic. The canal zone, too, is ours."

De la Guardia gave no indication in the interview when his government intends to "resume complete sovereignty" over the waterway linking the Caribbean and the Pacific.

"You must not get too romantic about these things," MacColl quoted him as saying. "You have got to weigh all the factors."

—The Oregonian

PUSH-BUTTON PANTRY

FAIR LAWN—A huge push-button "pantry" which would make grandma gasp in amazement will dominate the new multi-million-dollar bakery of the National Biscuit Co. here.

The pantry, in the form of a 150-foot steel tower, will contain large storage bins to hold flour, sugar, shortening, syrups and molasses to go into a vast tonnage of cookies and crackers which will be produced starting next year.

Operated at the touch of a button, the bins will assure a continuous flow of ingredients for many recipes in daily use. The pantry will receive raw materials by a system of automatic conveyors from especially-designed railroad cars and trucks.

Liquids will be pumped into storage and dry materials taken by pneumatic conveyor. Ingredients will be drawn as needed, weighed and measured by electronic equipment.

When completed, the tower exterior will be finished in buff-colored tile and light blue and white porcelainized aluminum sheathing. It will be the outstanding feature of the 1,276-foot-long bakery building.

—Newark News

—Another automatic plant which will eliminate man-hours of human toil and add to the production of an abundance.

MACHINISTS AIM AT 30-HOUR WEEK

A shorter work day and an eventual 30-hour week, without loss of take-home pay, to offset the widening effects of automation and atomic energy on employment, was called for by the Machinists' executive council, meeting in the nation's capital.

Announced by IAM President A. J. Hayes, the action came in a resolution adopted unanimously by the council, warning that "the alternative to a shorter work-week with loss of take-home pay will be increasing unemployment and reduction of purchasing power and, inevitably, an industrial and economic crisis far surpassing any this country has heretofore experienced."

Technological advancements, the council said, have already "lowered the labor requirements in many industries." New advances in electronics and nuclear energy bring closer "the specter of industrial processes that are self-operating" and need little or no manpower.

—Labor

—Technocracy states that the 30-hour week will not solve the problem of technological disemployment. Why not a 16-hour week with 3 months off for vacation each year? Americans have become more important as consumers than as workers so the ability to consume will have to go up, not down, even if it means more 'take-home pay.'

TRAILER SLIDES OFF WHEELS TO FLATCAR

The New York Central came up with a new way to piggyback recently. Where some railroads roll trailers on flatcars, and others lift, the Central slides.

The new method called "Flexi-Van Service" features a special device for separatng the rear wheel assembly from the trailer. The truck driver backs his trailer off its own wheels and onto a railroad flatcar containing a small turntable. When the trailer's center of gravity is over this turntable, a self-locking hydraulic lift takes the weight off the tires. One man can then push the trailer around until it's parallel with the flatcar.

It is claimed Flexi-Van is faster, cheaper, requires less loading and tie-down equipment than other piggyback methods, and can be used by railroads with restricted clearance.

—Business Week

CAFETERIA ON WHEELS

A 204-hp. pushcart that can dispense 1,000 complete hot meals in less than two hours is being produced by Dodge Division, Chrysler Corp. The stainless steel cafeteria unit is equipped with an oven, steam table, coffee urns, refrigerator, and pastry and candy compartments.

The unit, which is 10 ft. 7 in. long and 5½ ft. wide, is mounted on a trolley inside the van of a 1-ton Dodge truck. By pushing a button, the rear doors of the truck open. Another button causes the unit to roll out on its trolley to a fixed position, where it is ready for business. It is designed for mass feeding at industrial plants, sporting events, and similar affairs.

ELECTRONIC CHECK POSTING

Electronics got another leg into the banking business recently when National Cash Register Co. took the wraps off what it says is the world's first all-electronic bank posting machine. The six Post-Tronics installed at the Passaic-Clifton National Bank & Trust Co., Passaic, N. J., according to National Cash, will do the work of fourteen conventional posting machines. Stanley C. Allyn, National Cash president, told reporters the Post-Tronic will cut the man hours required to locate and correct posting errors by 75 per cent.

—New York Herald Tribune

—The more efficient, faster electronic computer once again scores against the clerical help.

MACHINE 'TALK' SPEEDS SENDING

NEW YORK—Bell Telephone laboratories announced a new experimental device enabling business machines to "talk" directly with one another at speeds of 1000 words a minute.

A spokesman for the labs said printed material can be sent over telephone lines at a speed 16 times greater than that of conventional teletypewriter systems.

The new device, calld a data subset, makes use of magnetic tape in sending data from electronic computers, electric typewriters or adding machines. This is in contrast to holes punched in paper tape by many other automatic machines.

Transmission of the data is automatic and voice communication can precede or follow the operation. In the event of a disturbance in transmission, the lab spokesman said, the receiving machine will reject the garbled portion and automatically cause it to be retransmitted.

—The Oregonian

—The so-called white-collar jobs are on the way out as various machines 'take over' and accomplish the work more efficiently and faster.

MACHINE-MADE REPORT CARDS

CHICAGO—Teachers are going to have more time to teach at suburban Proviso Township High School.

A mechanical record-keeping system has been set up to lighten teachers' bookkeeping and turn out report cards for the school's 4,200 pupils.

Under the former system, four different persons—the classroom teacher, homeroom teacher, permanent records clerk and counselor—had to copy grades.

Now the teacher will make a "sense" grade marking with a special electrographic pencil. Counselors will "sense-mark" a special absence and tardiness card for each pupil.

These markings for grades and attendance will be sensed by automatic equipment. The machines will pick up additional data from a master information card for each student and a master class card.

And out will pop printed report cards.

—Newark Evening News

BILLIONAIRE CONCERNS

Four new corporations became "billionaire" concerns during 1956, making a total of 81. Since the end of World War II the number of firms with assets in excess of $1 billion has nearly doubled, reflecting the phenomenal growth and prosperity in the post-war era. The makeup of the 81 billionaire firms includes 25 banks, 22 industrial and manufacturing corporations, and 16 insurance companies. The remainder are railroads, utilities, financial and retail concerns.

—Bank Bulletin

—We wonder how many 'beetle-brains' have been converted into billionaires by the stupendous spending of Uncle Sam in an effort to keep the 'prosperity of the post-war era.'

TAX EVADERS

"Tax cheaters will gyp the government of an estimated $10 billion when they file their returns for 1956," report the Scripps-Howard newspapers. "That's enough to give a $200 cut for every person who pays up."

Tax cheaters may report phony dependents, fake donations to charity or padded business expenses but the most widespread dodge of all is "failing to report all income," the newspaper chain said.

"The average wage-earner with one income, whose tax is withheld, can't do this, but it's easy for doctors, lawyers, farmers and others who keep their own books," the Scripps-Howard report noted. "The Internal Revenue Service knows all about the cheaters but doesn't have the manpower to catch them all."

In addition to tax cheating, gaping loopholes in the tax laws give special tax favors to some big interests. For example, Senator Paul H. Douglas (Dem., Ill.) recently told his colleagues the "depletion allowance" loophole used by oil producers costs the Treasury $1.5 billion a year.

LAW GIVES 'WINOS' RUNAROUND

FORT WORTH, Texas—Police Lieut. Ed Lee began an economy drive early this month. He ordered the jail cleared of all skid-road characters — "winos" to the police. This saved the city the price of a dozen breakfasts at 11 cents each.

To get them off the streets, Lee loaded the 12 into a paddy wagon and told the driver to take them that-a-way—nine miles south into the Tarrant County sheriff's territory.

Answerng a call that a mob had gathered, Sheriff's Capt. H. H. Alexander, Jr., and deputies found the winos stumbling back toward the Fort Worth business district, where panhandling is easier.

One tried to bum a dime from Alexander. That did it.

Alexander put the 12 into patrol cars and let them out—in the downtown Fort Worth business district.

—Seattle Times

—This is an outstanding example of some people's idea of economy.

FAILURES UP

Bankruptcies will hit a new record this year, outstripping the depression peak of 1932, a House Appropriations subcommittee was told recently by Edwin L. Covey, chief of the Federal courts' bankruptcy division. He estimated the number of filed bankruptcy cases for the fiscal year ending June 30 will hit the 72,000 mark, a rise of 8,000 over the previous year. Congressman John J. Rooney (Dem., N. Y.), chairman of the subcommittee, termed these figures "alarming."

—Labor

—This trend of bankruptcies shows the casualties of the increasing competition of business in a shrinking economy.

AMERICAN INDIANS NEED 'POINT 4' AID

PHILADELPHIA—There should be a "Point 4" program for the American Indian, a Quaker convention was told recently.

"The Indian is in dire need of a 'Point 4' program of economic education, health and employment aid," according to a report made by the Friends (Quaker) National Committee on Legislation. The report was presented to the 277th Philadelphia yearly meeting of Friends.

The local group's own committee on Indian affairs said many Indians "suffer from neglect, greed and from the act of Congress of 1953 which generally deprived them of both government protection and of their reservation."

—New York Herald Tribune

TECHNOCRACY IN THE FIELD

The Members of Technocracy apply their efforts in various ways to bring to the attention of all North Americans the significance of the present social trends and the need for a technological solution to the problems which arise out of them. They realize that only through their activities and efforts is the public made aware of Technocracy's Program.

An Authorized Speaker For Technocracy

How To Learn About Technocracy

SOMETIMES TECHNOCRACY INC. is accused of keeping information about Technocracy 'under its hat.' The complaint has been: Why don't you get to the public with Technocracy in a big way? Why isn't Technocracy presented on television and radio?

Such questions are from individuals who do not realize that Technocracy Inc. gets its only support from its Membership. It has no endowments, receives no subsidies and is allowed no tax exemptions. The financial load of maintaining facilities at many points on the North American Continent to serve the Membership of Technocracy and the public precludes our spending funds in necessarily large amounts to make effective use of TV and radio. In addition, the general public, with its current flippant and irresponsible behavior, gives no evidence of a desire to entertain the sober and serious thought which is a characteristic of Technocracy.

The fact of the matter is that almost anyone who wants to learn about Technocracy can do so in a number of ways. He can consult a telephone directory and find a local unit of Technocracy Inc. listed in many cities in Canada and the United States. Almost any town in North America has library facilities; and in a majority of cases Technocracy Literature will be available which will give addresses for obtaining more information. Other potential sources of information are libraries of colleges and universities, and of certain educational sources of state and federal agencies. However, it is recommended that the individual who is interested in Technocracy go to a Member or organized unit of Technocracy Inc., rather than to other sources, because the opportunity will be presented for a much more complete and accurate picture of Technocracy from those who are conversant with the subject.

Technocracy Inc. is maintaining a consistent, organized program of educational activities, and has been doing so since 1934. Public Meetings are being held regularly. Study Classes are an integral part of every unit operation, and are conducted among groups of Members and other interested persons.

In addition to Literature supplied by the Continental Headquarters of Technocracy Inc., three Magazines and other literature are published regularly. This Organization is doing everything within the limits of its personnel and resources to inform the public of North America's problem and Technocracy's answer.

The Technocrat may find it difficult to refrain from being sarcastic when someone asks him, in effect, why Technocracy doesn't go out for the more spectacular forms of publicity. Maybe Technocracy will when enough of the people who ask 'why' decide to join Technocracy and do something about it!

POWER IN OUR LIVES

POWER is a term that may be expressed in many units. By definition, power is the time rate of doing work. Work is defined as the energy necessary to lift a weight through a distance. Old Dobbin exerted himself at the crack of a whip to do work. The rate at which he did this work produced only a small quantity of power over a period of a day. However, this power mechanism, the horse, was quite an improvement over man himself as a prime mover. This improved prime mover changed man's rate of doing things. He applied more power to plow the fields, to harvest the crops, to pull the wagons of commerce and to help man travel more quickly from place to place. One of the purposes for which the animal was utilized was to pump water out of coal mines. Pumping water required so many horses that it became economically unsound to do the pumping by this means. The steam engine burning coal from the mine was then used as a prime mover to drive the pumps. As a result of this and many other applications of the steam engine, the rate of doing work increased the rate of operation all over the civilized world. The steam engine as part of the locomotive rolling on a steel rail provided man with a means of applying power to the social mechanism in much greater quantities, and this prime mover didn't get tired.

The steel rail mentioned above has an interesting history. The shape was engineered to take high bending loads with a minimum of distortion. Rolling the rail from a large ingot required a lot of power. The steam engine powering a gear train was used with success, but if a convenient source of power for local individual application could be found, much better control of the process would result.

The scientist in his endeavor to seek information about the physical things in nature studied the causes of electrical impulses from cloud formations. From these studies came the electric generator, a machine that converts mechanical energy into electrical, and the electric motor, a machine that converts electrical energy into mechanical energy of motion. Electrical power is expressed in kilowatt-hours. The driving power for large generator installations is a turbine wheel driven either by water in a penstock or by steam generated by burning coal.

The convenient source of power for local individual application is, of course, the electric motor. The electric motor was employed as a power source wherever it was convenient to run a power line to it. In these days of automation even more electric motors are employed in all different sizes. Most of the powered tools in industry are motivated by electric motors. In the home the refrigerator, freezer, dishwasher, clothes washer, clothes dryer, vacuum cleaner and garbage disposal unit are examples of work-saving devices which employ the electric motor to operate them. One of the ways of measuring the standard of living of a group of people is by the amount of electric power used. Almost 12 million kilowatt-hours are generated and used each week in the United States. Most of us would and do let the electric motor take the toil out of work.

In the internal combustion engine man has a prime mover which uses fossil fuel [gasoline or Diesel oil] to produce power. The power in this case is expressed in units of horsepower. One horsepower is the power required to move 33,000 pounds a distance of one foot in one minute. By using power from water, coal or fossil fuel, the operation of doing work can be maintained at a high level continuously instead of using low power machines such as animals for short periods of time.

Power may be converted from one unit to another. The following table lists some of these conversions:

1 kilowatt=1000 watts
1 kilowatt=1.3410 hp.
1 ft-lb/sec=1.35582 watts
1 Btu/min=17.57 watts
1 Btu/min=778.1 ft-lb/min.
1 horsepower=550 ft-lb/sec.
1 horsepower=33,000 ft-lb/min.
1 horsepower=0.7456 kilowatt
1 horsepower=745.6 watts

Does the reader realize that such men as Lincoln, Washington and Napoleon were not familiar with such terms as kilowatt, horsepower and British thermal unit? These men never experienced the use of large amounts of non-human power. Our society is very different from theirs because of the rate of expenditure of power.

In a high energy civilization it is imperative that all of the people are supplied with adequate goods and services. In the Price System the means of exchange [money] is the bottleneck in distributing the abundance which can be produced.

Technocracy Inc. is the only organization which has the blueprint for distributing an abundance to all the people on the North American Continent. Drop in to a local Section of Technocracy and get the facts about the distribution of abundance. The Technocrats will be glad to assist you in your investigation.

—George A. Kellogg, 12247-3

AND ALL WITHOUT MONEY

Someday we will do our work for free and get whatever we want without paying for it.

It would simplify a lot of things.

Loose change wouldn't wear holes in our pockets.

We could get on a bus without holding up progress while we paid our fare.

There'd be no more burglars or hold-ups.

There'd be no inflation, no deflation, no haggling about price, no arguing about wages.

We wouldn't have to wait for pay-day.

Mary wouldn't spoil the evening for John anymore by telling him that Lizzie's husband makes more money than he does.

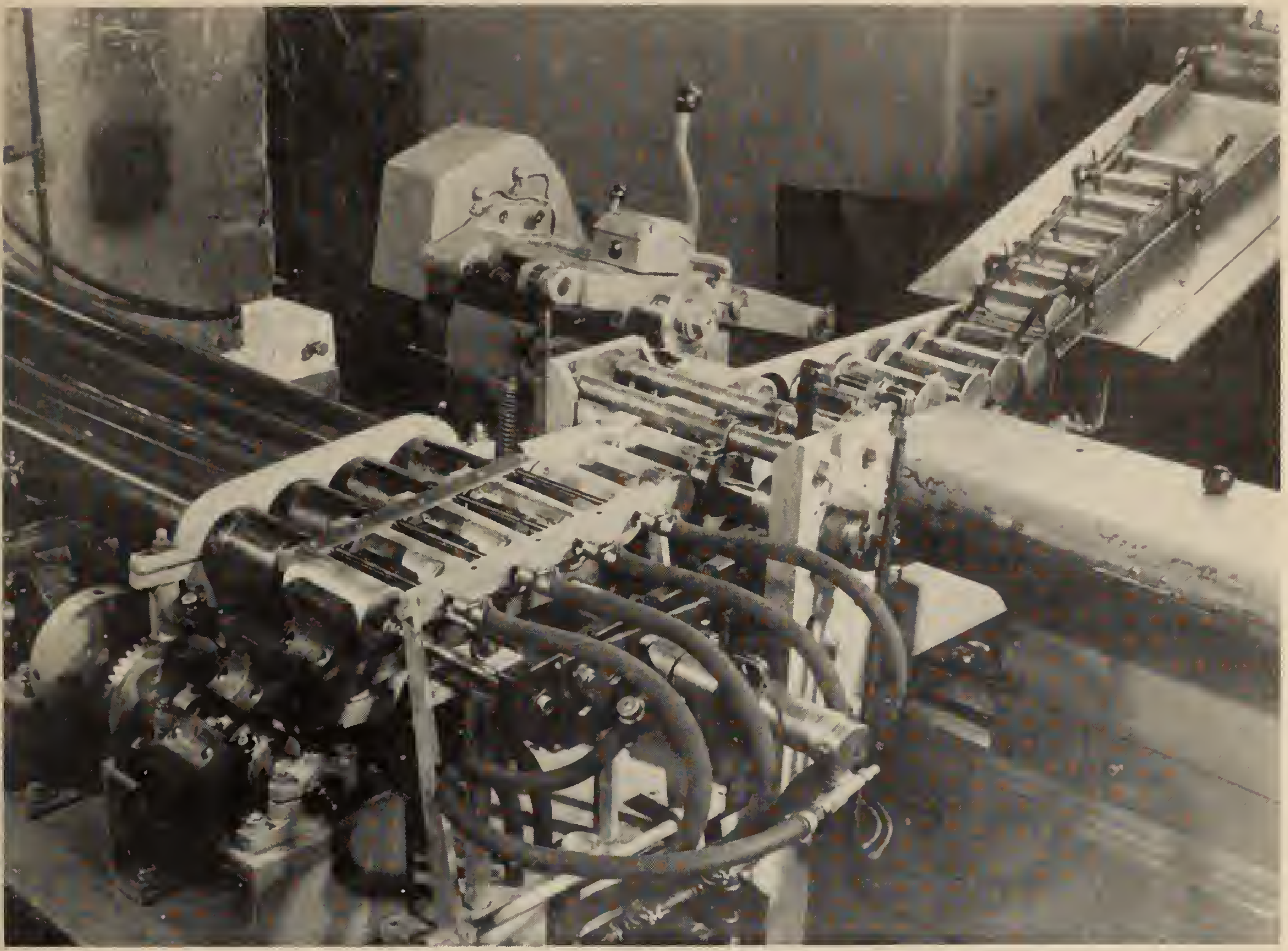
Papers and magazines would be easier to hold and to read without all the ads in them.

We could go around in jeans without being afraid that someone might think that was all we could afford.

At work we wouldn't be substituting inferior material just to save money, or putting out goods that wouldn't last to keep the cost down a trifle; we'd make things the way it struck us as sensible to make them.

And it would be a great saving. It would save all the costs of selling, which now uses up about half of our working ability. It would save us from the expense and trouble of putting on the dog—which even the poorest of us feel compelled to do. It would save all the work that goes into insurance and advertising and banking and most bookkeeping and practically eliminate the need for policemen and jailers and the waste of life in big-houses, and of wars for markets, and of the waste of made work and featherbedding, political or otherwise.

And on top of that just think: no commercials!



Four transfer tubes carry the finished cans by compressed air

Aluminum Cans by Automation

NEW YORK, April 17 — The seamless, rigid aluminum can, in production quantities—long a goal of container manufacturers—has become a practical reality, according to an announcement today by Aluminium Limited.

The independent Canadian aluminum producing company disclosed that it has succeeded, after several years of research and development, in putting into operation at its German subsidiary, Aluminiumwerke Goettingen, the world's first completely automatic aluminum can line, based on the impact-extrusion process.

The development is part of Aluminium Limited's continuing research program aimed at opening up new markets for aluminum products.

E. G. MacDowell, Aluminium Limited director and vice president in charge of sales, said in a statement today that the innovation will be of "great significance to the packaging industry in the United States and elsewhere and points to a reduction in costs and increased use of aluminum cans for a wide variety of products.

"We are on the threshold of the aluminum era in canning," Mr MacDowell said.

In the impact extrusion process, slugs resembling silver dollars are fed to a die in a press and struck a sharp blow with a punch, causing the malleable aluminum to "squirt" out over the punch and form a seamless can body.

Gordon Black, of Montreal, director of sales development for the Aluminium Limited group of companies, explained that the new line turns the slugs into finished, decorated,seamless cans in one continuous operation. He said these cans are being sold in Germany at prices comparable with the cans made of tin or black plate.

"Eventually," Mr. Black said, "there could be added to this process a 'continuous casting' unit, in which primary ingot would be melted down, converted into a continuous strip of aluminum, and from this strip the slugs would be punched out and fed continuously into the press.

"Thus, it would be entirely practical, on a line like that at Goettingen, to feed ingots into one end of a relatively simple but completely automatic series of machines, and from the other end to receive finished, decorated cans ready for packaging and shipping.

"It is possible to foresee the day when container canners themselves would set up a compact can-making facility adjacent to the canning plant, and integrate the entire operation."

Probably the most unique feature of the Goettingen line is the equipment used to transfer cans from one operation to the next and thus achieve complete automation, Mr. Black stated.

The system employs pneumatic tubes between units, through which the cans are either blown with compressed air or sucked by a partial vacuum induced in the tubes.

The line was developed by Aluminum engineers in Canada, at Banbury, England, and in Germany. Its special automatic feed equipment was perfected by Winkler Fallert, of Berne, Switzerland, the well-known press manufacturer.

Mr. Black noted that the seamless aluminum cans are leak-proof and rust-proof and have longer shelf life.

Because of their light weight, the cans will save shipping costs and stack better on supermarket shelves. Colorful luminous inks permitting attractive and attention-getting labeling will be printed directly on the container itself, he explained.

Aluminum Limited has been studying the application of aluminum to containers since the Thirties. It pioneered in aluminum sardine cans.

The company found in its research that tin plate handling methods were unsuited for aluminum containers. It, therefore, decided upon a completely fresh approach, which resulted in the successful Goettingen unit.

Production at Goettingen is limited now to the output of one impact extrusion press, but there is no reason why the principles of automatic handling cannot be adapted to production at a rate "several times greater," Mr Black said.

The flexibility of the equipment is demonstrated by the range of containers it manufactures. The present setup will make cans of from two to three inches in diameter and from two to six inches in height.

Mr. Black said the aluminum beer can is the most complicated that the "AC Line" turns out. The smallest can yet made is used for instant coffee.

The "AC Line" consists of five units: [1] a press to make the can body; [2] a finishing group where the can is trimmed to length, flanged or beaded, and base modified if it is to be used as a pressure container; [3] a degreasing machine and drying oven; [4] internal lacquering equipment and stoving oven, and [5] coating and offset printing machines and stoving oven.

"Change-over for making cans of different sizes is relatively simple," Mr. Black said, "and under normal conditions, three men should be able to complete a change-over in about two hours."

COVER PICTURE

Transfer Tubes

From the press, the cans are gravity fed to an automatic machine for trimming, flanging and forming of the can base. The finished cans are delivered to four transfer tubes, where compressed air blows them on their way to the degreasing unit. [Data and pictures courtesy of J. Walter Thompson Co.]

PRIVATE ALUMINUM MARKETS SHRINK

Aluminum producers have asked the government to buy 200,000 tons of primary aluminum at the current market price of 25c per pound, to make up the difference between booming aluminum production and lagging demand.

The producers are exercising so-called clauses in their government contracts, which require the government to buy up to certain percentages of plant output (up to 100 per cent in some contracts), if the producer has no private market for his product. These clauses, which run out after 1958, reflect government incentive programs to encourage capacity boosts during the Korean War.

Up until last fall, aluminum demand was outstripping supply, and all major producers announced ambitious expansion plans. However, the current dip in automobile and consumer hardgoods output has dropped demand until 1957 estimated supply by about the 200,000-ton figure.

—Business Week

TECHNOCRACY

North America's Only Social Dynamic

WHAT?

Technocracy is the only North American social movement with a North American program which has become widespread on this Continent. It has no affiliation with any other organization, group or association either in America ro elsewhere. The basic unit of Technocracy is the chartered Section consisting of a minimum of 50 members and running up to several hundred. It is not a commercial organization or a political party; it has no financial subsidy or endowments and has no debts. Technocracy is supported entirely by the dues and donations of its own members. The widespread membership activities of Technocracy are performed voluntarily; no royalties, commissions or bonuses are paid, and only a small full-time staff receives subsistence allowances. The annual dues are $9.00 which are paid by the member to his local Section. Members wear the chromium and vermilion insignia of Technocracy — the Monad, an ancient generic symbol signifying balance.

WHEN?

Technocracy originated in the winter of 1918-19 when Howard Scott formed a group of scientists, engineers and economists that became known in 1920 as the Technical Alliance—a research organization. In 1933 it was incorporated under the laws of the State of New York as a non-profit, non-political, non-sectarian membership organization. In 1934 Howard Scott, Director-in-Chief, made his first Continental lecture tour which laid the foundation of the present Continent-wide membership organization. Since 1934 Technocracy has grown steadily without any spectacular spurts, revivals, collapses, or rebirths. This is in spite of the fact that the press has generally 'held the lid' on Technocracy, until early in 1942 when it made the tremendous 'discovery' that Technocracy had been reborn suddenly full-fledged with all its members, headquarters, etc., in full swing!

WHERE?

There are units and members of Technocracy in almost every province in Canada, and in addition there are members in Alaska, Hawaii, Panama, Puerto Rico and in numerous other places with the Armed Forces. Members of Technocracy are glad to travel many miles to discuss Technocracy's Program with any interested people and Continental Headquarters will be pleased to inform anyone of the nearest Technocracy unit.

WHO?

Technocracy was built in America by Americans. It is composed of American citizens of all walks of life. Technocracy's membership is a composite of all the occupations, economic levels, races and religions which make up this Continent. Membership is open only to American citizens. Aliens and politicians are not eligible. (By politicians is meant those holding elective office or active office in any political party.) Doctor, lawyer, storekeeper, farmer, mechanic, teacher, preacher or housewife—so long as you are a patriotic American—you are welcome in Technocracy.

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To All North Americans

A negative national policy can lead only to negative results, such as: higher taxes, more debt, more fighting, more hardship and dissension among the people, and a national psychosis of fear and distrust. What North America needs is a positive Continental policy that will improve the position and circumstances of its people, boost their morale, and unify them in a common worthwhile objective on this Continent—a policy which only Technocracy can provide.